Volume 76 Number 6
June 2008

Amateur Radio

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THE MAGAZINE FOR AUSTRALIAN RADIO AMATEURS

AR puts

Yaesu FT-950

through its paces

plus

- A low noise amplifier for 70 cm
- A better ground plane for mobile antennas

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HF/50 MHz Transceiver
FT-2000

HF/50 MHz Transceiver
FT-950

HF/50 MHz 100 W
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FT-450

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Amateur Radio

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Ron Fisher VK3OM, Bill Roper VK3BR and Eric Buggee VK3AX review the Yaesu FT-950 HF and 6 m transceiver. See story on page 24. Background scene photo by John Gardner VK7ZZ. See VK7 notes on page 36

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Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

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Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest National Radio Society
Founded 1910

Representing

The Australian Amateur Radio Service

Member of the
International Amateur Radio Union

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Editorial Comment

Peter Freeman VK3KAI

Imperfect proofing

Yes, we are all human and subject to making errors. One such error last month resulted in the same typographical error occurring four times! I missed the error when the photo captions were sent to me, and the proofing team members also missed it – four times! So, rather than just apologising to the person that was misidentified (incorrect numeral in his callsign), I have decided to share here with you most of my exchange with Duncan VK2DLR, as Duncan's response has some points worth sharing. Yes, I could have done this as an *Over to You* item, but hopefully it may have more impact here. Also note the correction regarding the diagram of the Slim Jim antenna dimension. I will post the corrected diagram to the AR archive on the WIA website.

Hello Duncan,

Please accept my apologies on having missed the error in your callsign in three places with the photos, and in the caption to the cover photo! I can only blame it on myself, not having closely checked the captions sent in to me, and then missing the errors again at proofing.

On the other hand, I hope that I did a reasonable job of recreating your diagrams into a form that was usable for publication.

I will place a correction note in the next issue.

Regards,
Peter VK3KAI

Duncan replied:

Thanks Peter,

It is amazing how strong habits become. I have the same problem when I record VK4 callsigns from just over the border. The diagrams look pretty good to me. The only minor technicality I can see is in step 3 the 390 mm dimension is to the bottom of the notch rather than the centre as the drawing suggests. The text elaborates this point.

Thank you for all your work and to Robert Broomhead VK3KRB for the visit and photography. When we stand back and think about it I am the dead lucky one who ends up with his photo on the cover as the result of a lot of work from others. It was the WIA executive and others that did the work to create Foundation licences and the Assessor system that let Aaron and Kendall earn their licences. Their enthusiasm and attendance created the photo opportunity that would have passed unnoticed if Robert had not visited. My contribution was simply to share my experience of building antennas designed by others.

Some people would call it teamwork. Others would call it individuals working independently for the common good. Call it what you like - it works.

Thanks again for your work and the correction note.

Regards,
Duncan VK2DLR

WIA and AR magazine Awards

At the AGM in Broken Hill, several awards will be announced. Some are decided by the WIA Board. Three awards are recommended to the Board by the Publications Committee, based largely on the material published in AR in the previous year – the *Higginbotham Award,* the *Al Shawsmith Award* and the *Amateur Radio Technical Award.* The President outlines the awards and identifies the recipients in this month's Comment column. Congratulations to all recipients.

Call for help

Over the past couple of issues, we have called for volunteers to assist with the preparation of the next Callbook. I thank all who indicated their willingness to assist. By now, I shall have been in contact with all of them. They may still be able to assist in some way – we shall keep them all informed.

I welcome to the Publications Committee Greg Williams VK3VT, who not only offered to assist this year, but is willing to take on the role of Callbook Editor after this year, with Brenda VK3KT having announced earlier this year that the next Callbook would be her last! So, a big thank you to Greg – I trust that we shall all be able to make his job not too difficult.

We still need some help with the Callbook and for AR – we need your high quality photographs for consideration for use on the cover of either publication!

73
Peter VK3KAI

Michael Owen VK3KI

Why do we present Awards?

Last month *Amateur Radio* carried pictures and a story about the presentation of a *G A Taylor Medal* to Al Shawsmith. It started me thinking about awards generally, and more particularly, the other awards that will be presented by the WIA this year and asking myself what end is served by the WIA Awards.

In most cases they honour the person whose name they bear.

So, in the case of the presentation to Al Shawsmith, we not only honour a man who has given much to amateur radio, but we are reminded of George Taylor, the founding chairman of the WIA.

Some awards are made on the basis of the recommendation of the Publications Committee.

The *Higginbotham Award* is one of those awards. Ron Higginbotham served on the Publications Committee from 1947 until 1964. He worked at the Richmond Chronicle and was responsible for the typesetting and production of this magazine from 1949 until 1973. The award named after him is to recognise general services to amateur radio, not necessarily the magazine. In fact, and perhaps hardly surprisingly, it has often been awarded to people whose contribution has been associated with the magazine. This year it is awarded to **Robin Harwood VK7RH** for the long standing SWL column he contributes to *AR*.

It is our way of remembering a man who gave so much to amateur radio and the WIA in the past, and also a way of saying thank you to someone who is giving much today.

But some awards do not merely say thank you. Their purpose is to encourage excellence. **Al Shawsmith** is known for his writing, and firmly believes that good writing is to be encouraged, particularly if it is associated with amateur radio, and so he has given the WIA a sum of money to be used for an award for the best non-technical article in AR.

That will be awarded this year on the recommendation of the Publications Committee to **Graham Scott VK2KE** for his article "Teaching amateur radio classes" published in the July 2007 *AR*.

The *Chris Jones Award* was only created last year. It honours a man who gave amateur radio so much. The inscription on the award says it all:

The Chris Jones Award honours the memory of a man who was dedicated to the advancement of amateur radio and whose unfailing commitment and vision led to a new Wireless Institute of Australia and whose unfailing courtesy and genuine friendliness is fondly remembered by all who knew him. It is awarded to radio amateurs who have made an exceptional contribution to amateur radio and the Wireless Institute of Australia.

To many of us this is a very important award, simply because so many of us knew Chris Jones so well and his passing is so recent.

This year, only the second year of the award, the Board has decided to award it to **Ken Fuller VK4KF**.

On the sudden death of Chris we faced a time of great need, and Ken stepped in and agreed to act as WIA Secretary on a "temporary" basis. The administration of the WIA turns very much on the Secretary, and it is not a bad idea to file all the things that the Corporations Act tells you to file. But Ken brought much more, dealing with the structure (or restructure) of a number of our groups.

The real problem was that he did such a good job that his idea and my idea of the meaning of "temporary" greatly diverged.

In awarding it this year, we are saying a very real and personal thank you to Ken who came to our aid in our time of most need, and the *Chris Jones Award* is just such an appropriate way of doing so.

Another award given by the Board is the *Ron Wilkinson Achievement Award.*

Ron Wilkinson VK3AKC gained a high level of skill and knowledge of VHF and UHF radio, encouraging others to follow him with their own investigations.

His widow Mary, who has now also passed away, gave $1,100 to the WIA to create an award to honour Ron. Last year, I was very happy that I was able to advise Ron and Mary's children that we still honour Ron, the money is still there, invested and still supporting an award.

While that award has often been presented to recognise a technical achievement, that is not always so, and this year is the way we can say thank you to someone who has given amateur radio much, but in a non-technical area.

We are awarding it to **Brenda Edmonds VK3KT**. In the past, her passion was education. But today it is other things for which we wish to say thank you.

She, along with Ted Thrift, co-edits the Callbook. She has for many years given us a day a week helping in the office. And during a period when we were in real trouble due to sickness of our employee, she gave us much more than a day a week.

So, to Brenda, we say thank you and honour her contribution, at the same time preserving the memory of an enthusiastic amateur.

In Broken Hill we will give two other awards, neither reminding us of someone special from the past, but both honouring and encouraging excellence and contribution.

One is the *President's Commendation* given, as is said in the old minutes, as a means of recognising an act or activity particularly supporting the Wireless Institute of Australia.

We give that to **Michael Wright VK5ARD**, for his encouragement of amateur radio in Roxby Downs, in particular by introducing amateur radio to young people, establishing training sessions and then arranging assessments.

Finally, we award the *Amateur Radio Technical Award* for the best technical article to **Drew Diamond VK3XU** for his article "Class-E AM/CW transmitter for 1.8 MHz" published in the June 2007 issue of *Amateur Radio*.

So, to answer my own question, the WIA awards may honour and remind us of people from the past and may be given to encourage and honour contribution and may be a special way of saying thank you.

ar

WIA news

2-letter call issue clarified

One matter that has concerned a number of people about the proposed 2-letter callsign ballot process that the WIA and ACMA have jointly published was cleared by a statement published by the WIA in April.

The published paper setting out the proposed process, under "persons eligible to apply" states, in effect and leaving out a number of words, that a person who is a director, officer or employee of the WIA will not be eligible to participate in the ballot.

The term "officer" was to be used in the Corporations Act 2001 sense, where by section 9 "officer of a corporation" is defined to include a person "who makes, or participates in making, decisions that affect the whole, or a substantial part, of the business of the corporation; or who has the capacity to affect significantly the corporation's financial standing", though this was not made clear.

It was intended to exclude people who are, or could be perceived to be, in a position to influence the outcome by reason of their particular position in the WIA. It was intended to exclude, as well as the directors and employees, persons holding positions such as secretary, and who, if they successfully participated, could be suspected by some of improper influence.

It was not intended to exclude the many other volunteers who undertake tasks for the WIA, whether as coordinators, assessors or members of committees.

28 July is last date for Club Grant applications

On 18 March 2008 the WIA published a release highlighting the changes to the WIA Club Grant Scheme, and in particular that in 2008 there will be two categories of projects supported.

One category will be for useful but not innovative projects or activities, including projects involving repeaters or associated links. The WIA will support up to three projects in this category, with grants up to a total of $3,000.

It will be up to the Grant Committee to decide how much of the money available will be recommended for each project recommended in this category.

The other category will be for projects or activities that are innovative. The WIA will support up to three such projects, with grants up to a total of $3,000.

Again, it will be up to the Grant Committee to decide how much of the money available will be recommended for each project supported in this category.

The Club Grant Scheme Rules have been amended to allow the Board to make these changes to the scheme. The amended Rules can be found on the WIA website, as can a useful template setting out the suggested application headings for an executive summary identifying how the club seeks to meet the objectives of the scheme in the category it has selected. Clubs are urged to carefully read both documents.

The WIA Board has now decided that the closing date for applications for grants this year will be Monday 28 July 2008.

ACMA spectrum review

As previously reported, ACMA has published a number of papers concerning the principles of spectrum management in Australia and a discussion paper in respect of various proposals to re-plan spectrum in the region of 420 to 512 MHz, with proposals affecting the 70 cm amateur band.

From 30 April 2008 to 2 May 2008 ACMA conducted its major radiocommunications conference, RadComms08, where these papers were presented.

WIA Director Peter Young VK3MV represented the WIA at the conference and has reported in detail to the Board.

The WIA will be lodging submissions setting out the position of the amateur service to the matters that are put in issue in these papers.

2008 BERU Contest

This year, the BERU contest not only had teams from Australia, Canada, Great Britain, New Zealand, and a team called "The Rest-of-the-World", but were joined by Team Africa.

Team Australia, who was last year's runner-up, amassed a marvellous score of 61,500 to take the title, just ahead of the Rest of the World on 59,700.

Team Australia was captained by Stephen Ireland VK6VZ; and included VK2NU, VK4EMM, VK6BN, VK2BJ, VK6HD, VK6LW, VK4XY, VK2MB (G4OBK) and VK4BUI.

In the Headquarters section, VK4WIA made a welcome re-appearance in the hands of Keith VK4TT.

Band plans documents updated

The WIA band plan document has been updated.

The most recent versions of files for download are on the WIA web site.

John Martin VK3KM, Chairman of the National Technical Advisory Committee, advises that the changes to the 70 cm band plans include the addition of alternative 70 cm frequencies for D-STAR repeaters in areas where beacons and repeaters are co-located.

Changes to Australian Radiofrequency Spectrum Plan

The ACMA has advised the process leading to amendments of the Australian Radiofrequency Spectrum Plan, the ARSP, that may lead to the creation of a secondary amateur service allocation on 137 kHz.

Once the final WRC-07 documents have been received from the ITU, ACMA will commence drafting amendments to the ARSP with the view to a public consultation period later this year. After consideration of comments received, the ACMA is hopeful of publishing the new plan and accompanying changes in subordinate legislation by early 2009.

ARISS on television show

Tony Hutchison VK5ZAI, WIA National ARISS Coordinator, appeared on the Channel 7 Today Tonight show on April 11th. The show provided some great insights as to how Tony and others over the years have provided support to NASA and how amateur radio helps to promote public awareness of the NASA space program through school contacts with the astronauts aboard the ISS.

The WIA has put this segment on the WIA website in Windows wmv format and should launch correctly in Windows Media Player when using Microsoft Internet Explorer Web Browser.

You will find it under the "Discover Amateur Radio Menu"; select "Amateur Radio Videos".

ar

The market umbrella portable antenna mast

Richard Cortis VK2XRC

Some time ago, the local coffee shop threw out some market umbrellas. Being a little more fanatical than your average dumpster diver, I picked one up and brought it home because it had some good timber which may have been useful for something one day. The sun had done its job on the umbrella canopy but the timber structure was in good order. Recently, I had a rush of blood to the head and decided to re-configure the geometry of the umbrella to turn it into a portable amateur radio mast.

The market umbrella was a typical four sided timber framed market umbrella with a fixed hub at the top and a sliding hub to support the braces. There was a brass pin to hold the sliding hub in position when the umbrella was erected.

The first thing I did was to remove the canopy and throw it away because it was just too rotten even for a painting drip sheet. I then removed the arms from the fixed hub at the top of the pole, and then removed the braces from the sliding hub. This was fairly simple and required only a pair of pliers to untwist the wire fixing the arms and the braces to the hubs. I then took two wire coat hangers and reversed the arms and the braces so that the braces were attached to the fixed hub on the end of the pole and the arms were fixed to the sliding hub on the pole.

Fixing the arms and the braces back onto the hubs was a little bit of a hassle, mostly because my grandchildren were trying to help. In the normal course of events, it is a fairly simple activity where the coat hanger wire is formed roughly into the circular shape of the hub and then threaded through the holes in the arms The arms are then set into the recesses in the hub and the pliers are used to twist the wire and tighten it. I did the same thing to reinstall the braces on the fixed hub.

I then set the modified device on the ground and attempted to erect it. I found that the original hinge position needed to be changed, for two reasons. Firstly, the distance from the fixed hub to the hinge point on the arm was about the same as the length of the strut so that, when the sliding hub was moved as far as it could, the braces ended up almost parallel to the arms and the arms lay flat on the ground, leaving the device somewhat unstable.

The second reason was to make the device fold more compactly than the umbrella. I moved the hinge point (the point where the brace attaches to the arm) about 200 millimetres towards the tip so that, when folded, the arms sit neatly against the pole, beneath the fixed hub. This also has the effect of stabilizing the geometry so that the sliding hub can be moved towards the fixed hub without the device becoming unstable.

The only carpentry work was to drill the four holes in the arms. The only tools I used were the pliers, drill and 5 millimetre bit, screw driver and a hammer to peen over the ends of the threads on the new hinge pin bolts.

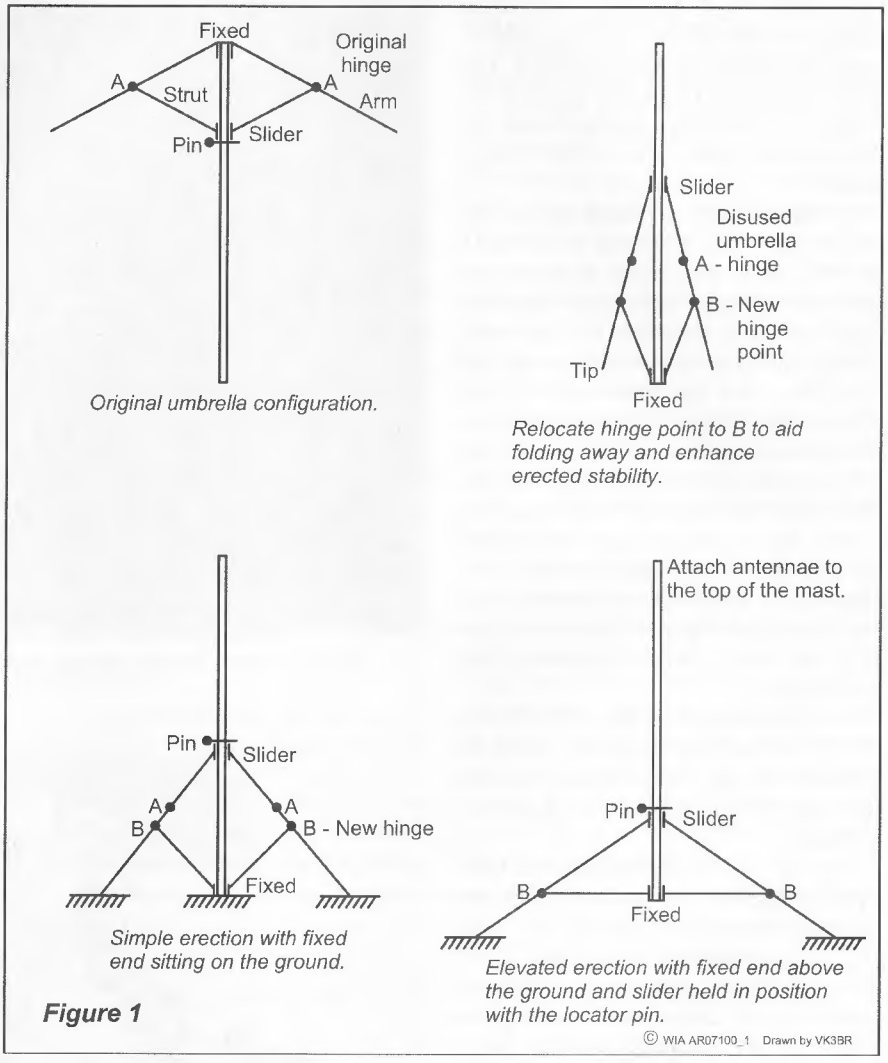

Figure 1 The author's modification plans for the umbrella mast.

continued on page 9

A low-noise amplifier for 70 cm

Filip Zalio VK3FLP
vk3flp@optusnet.com.au

I needed a good low noise amplifier for some weak signal experimentation. After having a look around in the various places that sell them, I concluded that it is worth trying to design and build my own version of it. If nothing else, it would be an excellent learning opportunity, as I had never designed a high performance low noise amplifier before this exercise.

Luckily, the main component – the low noise High Electron Mobility Transistor (HEMT) – is being sold in small quantities by Mini-Kits [1]. The transistor, the ATF-54143 is made by Avago [2] (formerly Agilent) and has exceptional parameters on the 70 cm band.

The noise figure of this device is less than 0.2dB, which allows us to build an EME-class low noise amplifier, as long as the input matching circuit is done correctly. The HEMT is also very linear having a 3rd order intercept of +30 dBm, so it can cope well with out of band interference. The transistor is an enhancement mode HEMT, so it does not require negative gate bias supply. One other advantage of this transistor is that the optimum input impedance for minimum noise figure is close to 50 ohm, at our frequency of interest. Thus the input matching circuit can be simpler and less lossy, further improving the noise figure.

A disadvantage of the ATF-54143 HEMT is that the amplifier could be unstable in the GHz region, unless the output match circuit is designed carefully.

The ATF-54143 HEMT has been used by other builders of 70 cm preamplifiers. One good and stable design is by YU1AW [3]. I do recommend this design, if you have access to high quality trimmer capacitors and do not mind building the input resonator from a copper strip. Since I did not have the high quality trimmers and also having decided that I could live without the input selectivity, I simplified the YU1AW design and changed the input circuit. I also tweaked the output circuit a little to improve the matching. The result is a preamp on a single small printed circuit board, with no unusual or hard-to-get components, while the noise figure is still very good.

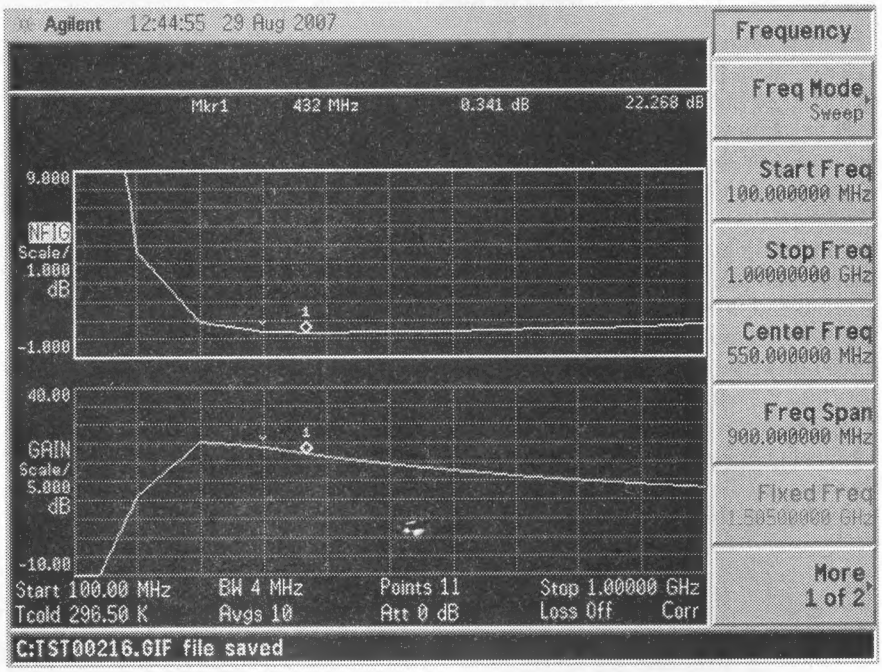

Photo 1: Measurement results showing gain and noise figure at 432 MHz.

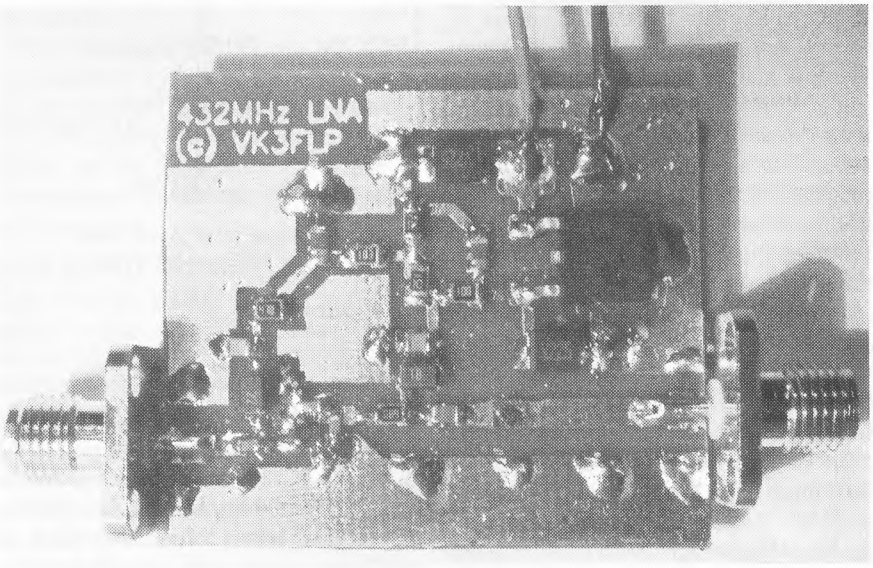

Photo 2: The completed unit.

My LNA design does not include any form of transmit-receive switching or protection, as this would depend very much on the individual application. A T/R switch design should take into account the fact that the transistor can tolerate up to about 50 mW input power according to [2], and I recommend a further 10 dB headroom.

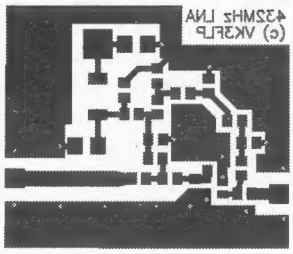

Figure 1: Image of pcb artwork.

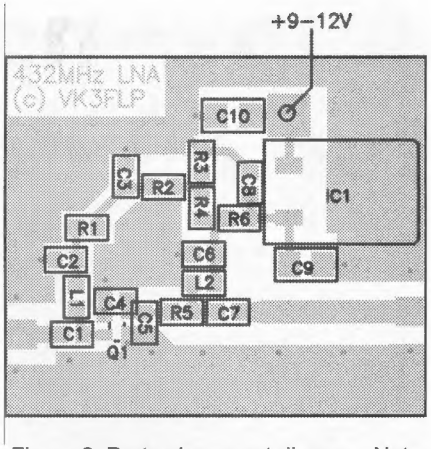

Figure 2: Parts placement diagram. Note that the grey dots represent through board vias connected to the ground plane side of the pcb (see text).

Circuit description

Referring to the schematic diagram (Figure 3), L1 and C1 form the input matching circuit. These two components transform the input impedance of 50 ohm close to 70+j40 ohm, which is required to achieve the optimum noise figure.

Something to note is the influence of the Q factor of L1 on the total noise figure. The parasitic resistance of this inductor affects the noise figure noticeably. In this case, I have chosen an ordinary moulded SMD inductor, with a quite low Q of about 40, resulting in a measured total amplifier noise figure of 0.34 dB. Based on some quick simulation I have done, it should be possible to reduce the noise figure close to 0.2 dB, if one used a better inductor with a Q in the still achievable range of 70-100. Perhaps someone might try a hand-wound inductor, using a silver-plated wire…

The capacitor C2 provides RF ground connection for the input matching inductor and decouples the bias circuit. The bias circuit includes resistors R1, R2, R3, R4, R6 and capacitors C3 and C6. The gate bias is a positive voltage, adjusted with R3 so that the current through the HEMT is about 40 mA, and the drain voltage is about 3.3 V.

The output circuit, consisting of C4, C5, R5, L2 and C7 serves two purposes. Firstly, it ensures stability of the amplifier across the full frequency range, especially above 1 GHz. Secondly, it provides a good impedance match to a 50 ohm output at 432 MHz.

IC1 is a standard 5 V regulator. The printed circuit board has a separate connection pad for the positive power supply, but if desired, the power supply could be provided from the output coax connection. In such case, an RF choke could be soldered from the RF output line to the power input pad.

All the components are surface mount. Most of the passive components are the 0805 SMD footprint, which is still large enough to solder easily by hand (with tweezers) but small enough that the circuit performance on 432 MHz is not affected too much by the parasitic parameters. It is also possible to use 0603 size components with no adverse effect.

Assembling the amplifier

I have manufactured the printed circuit board at home using a laser printer and the iron-on transfers, sold by Jaycar. If you use a laser printer, you will need an exact 1:1 mirrored image of the board pattern, to print onto the transfer sheet. I can provide a PDF file by email. The circuit board design has been optimised for 1.2 mm double sided FR4 laminate. The bottom side of the PCB is not etched and serves as the ground plane. The top side is shown on Figure 1 and component placement is on Figure 2. The printed circuit board measures 1.46 x 1.24 inches (37.08 x 31.5 mm).

There is a number of 'via' holes which connect some pads to the ground plane. These are drilled with a 0.8 mm drill and a wire pushed through and soldered on both sides.

After preparing the PCB, all components except R3 can be soldered in. In my experience, the surface mount components can be easier to work with than through-hole and the whole preamplifier could be put together in an hour. One just needs a steady hand and good eyesight, or a magnifying glass. The Q1 is sensitive to static electricity, so I recommend the usual 'ESD' precautions.

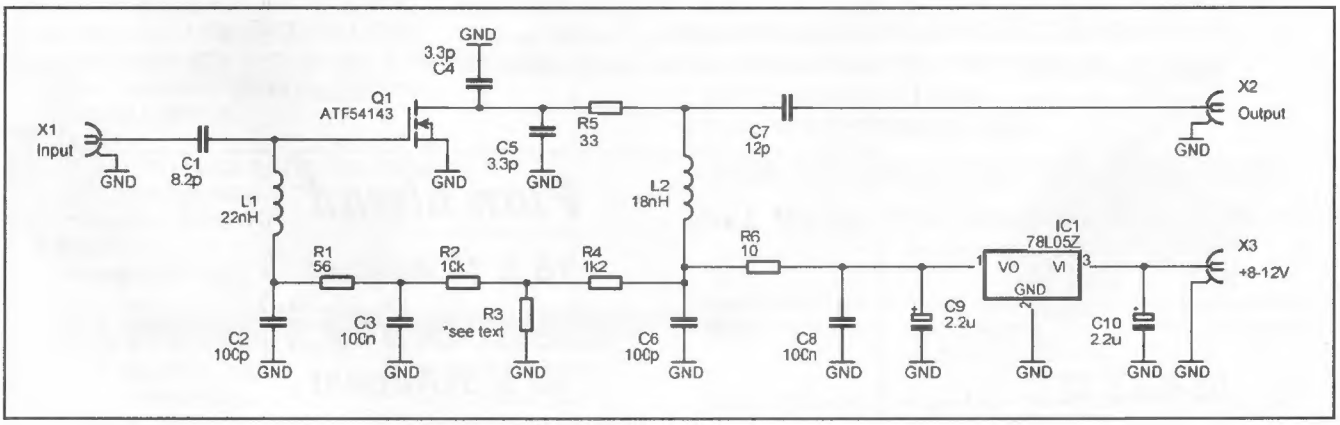

Figure 3: Schematic diagram of the LNA.

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After thoroughly checking the board, the next step is to solder a 2 k trim pot in place of R3, and turning it to the position of minimum resistance (short). Next, the power supply can be connected and turned on. The output of IC1 should be checked, and the voltage should be 5 V. Next the voltage on the drain of Q1 should be measured. It should be 5 V at this stage, as no current flows through Q1. Next, the 2 k trim pot should be carefully turned, to increase the resistance, until the Q1 drain voltage drops to 3.3 V. Turn off the power supply, unsolder the trim pot, being careful not to move it. Then measure the resistance. Select a SMD 0805 resistor (or parallel combination of resistors) with the same resistance, and solder them in place of R3. In my case, it was 200 ohm, so I chose 220 ohm in parallel with 2.2 kohm. I decided to use a fixed R3 resistor in this way, rather than a permanently soldered trimmer to ensure mechanical stability and reliability.

Results

Luckily, I have an occasional access to an Agilent N8973A noise figure analyser, so that I had a chance to check how the real circuit performs. The prototype LNA measured on this instrument showed 0.34 dB noise figure and 22 dB gain on 432 MHz. The noise figure measurement at such low values has some uncertainty, and more on this can be read on the N8973A web page [4]. The measured noise figure and gain over the frequency range 100 MHz – 1 GHz can be seen on Photo 1.

Naturally, the preamplifier should be mounted as close to the antenna as possible, to take advantage of its performance, but that would be a subject for another article. If anyone decides to build this preamplifier, I would be very much interested in the results achieved.

Component List

Q1 ATF-54143 pHEMT, Avago, available in Australia from Mini-Kits

IC1 SMD Voltage Regulator MC78M05 +5 V, Jaycar No. ZV1544

C1 8.2 pF, 0805 or 0603 SMD capacitor

C2, C6 100 pF, 0805 or 0603 SMD capacitor

C3, C8 100 nF, 0805 or 0603 SMD capacitor

C4, C5 3.3 pF, 0805 or 0603 SMD capacitor

C7 12 pF, 0805 or 0603 SMD capacitor

C9, C10 2.2 uF, tantalum capacitor, 3216 surface mount, Jaycar No RZ6544

L1 22 nH, 0805 SMD inductor

L2 18 nH, 0805 SMD inductor

R1 56 ohm, 0805 SMD resistor

R2 10 kohm, 0805 SMD resistor

R3 see text

R4 1.2 kohm, 0805 SMD resistor

R5 33 ohm, 0805 SMD resistor

R6 10 ohm, 0805 SMD resistor

X1, X2 SMA female connectors, or solder coaxial cable directly

References

[1] Mini-Kits web site http://www.minikits.com.au

[2] ATF-54143 datasheet, http://www.avagotech.com/products/product-detail.jsp?navId=H0,C1,C5230,C5088,P94057

[3] http://www.qsl.net/yu1aw/atf54143eng.htm

[4] http://www.home.agilent.com/agilent/product.jspx?cc=US&lc=eng&nid=-536902736.536880065&pageMode+OV

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The market umbrella portable antenna mast

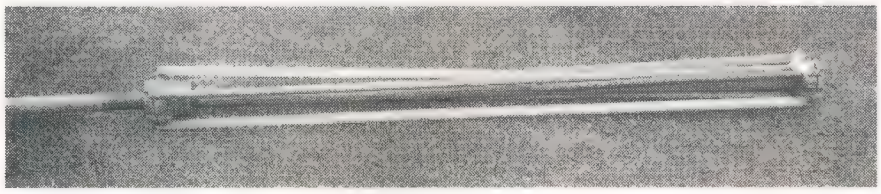

Photo 1: The umbrella mast in its fold-up state..

continued from page 5

Market umbrellas with eight arms can be treated similarly but you may consider only reinstalling four of the arms to save weight and complexity. I do not recall having seen a six-sided market umbrella.

So what did all of this cost? Well, the coat hangers cost nothing and the four machine screws, four nuts and eight washers came out of stock.

And how long did it take me? Even with the grandchildren helping, it took a bit over half an hour.

The finished product is a bit like a large version of a camera tripod but a lot larger and a lot more stable. It will support VHF and UHF beam antennas and verticals

Photo 2: A close up view of the umbrella mast after the modifications.

and will even support one end of a long wire or the centre of a dipole. There are many options.

I thought it was worth the effort and one of the members of the Waverley

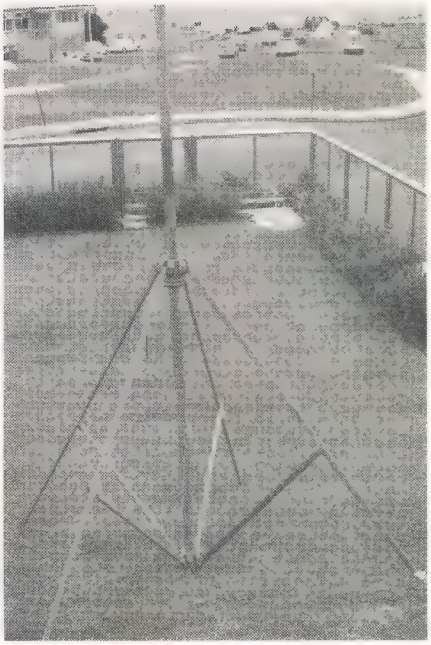

Photo 3 The umbrella mast ready for action.

Radio Club liked it so much that I decided to give it to him as he has possibly more use for it than I do.

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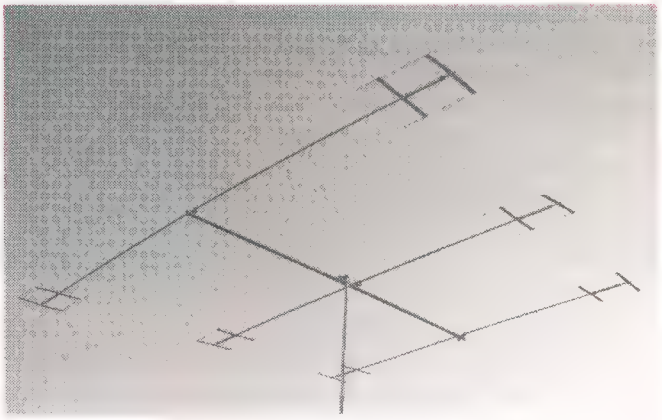

SPECIFICATIONS	
FREQUENCY	14, 21, 28 MHz BAND
MAX.ELEMENT LENGTH	5520 mm
BOOM LENGTH	4.0 m
GAIN	6 / 6 / 7 dBi
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FEED IMPEDANCE	50 ohm
TURNING RADIUS	3.74 m
WEIGHT	12 kg
POWER RATING	2 kW PEP

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Measuring complex impedances

using the HP8405A vector voltmeter and a return loss bridge

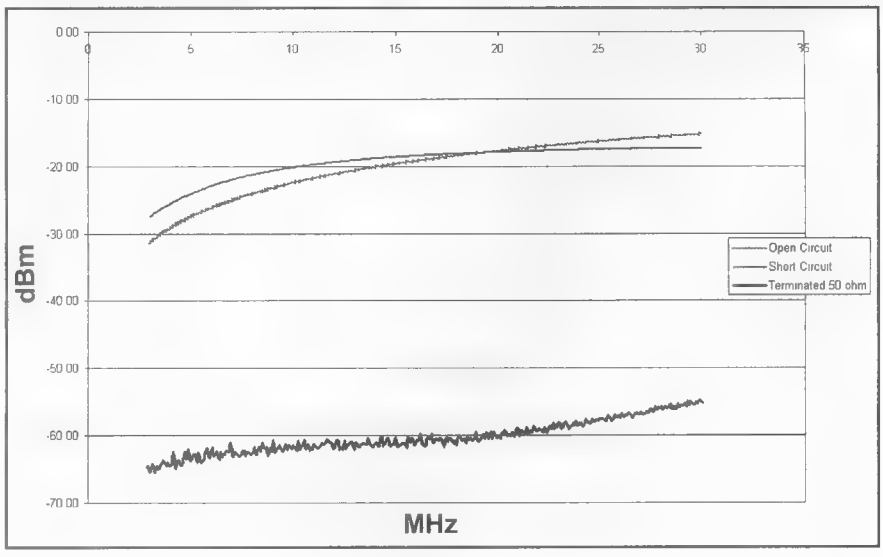
Gary Gibson VK8BN.

Richard Sawday VK5ZLR in the June 2005 edition of AR described some basic uses for the HP8405A vector voltmeter. In a more recent edition, June 2007, Paul McMahon VK3DIP described a simple wideband return loss bridge. Here I describe how I have put the two items together to measure complex impedances. I do not intend to describe again the construction of the RLB as this has been covered previously. Using the return loss bridge to simply measure return loss or VSWR is great; however by adding the vector voltmeter we have the tool to effectively calculate matching solutions. Using a return loss bridge along with a vector voltmeter the amplitude and phase reading of the vector voltmeter represent the magnitude and phase of the reflection coefficient; if we plot this on a Smith chart we can directly read the complex impedance.

My first experiments were conducted with a RLB as described by Jack Priedigkeit W6ZGN in the October 1981 edition of QST. This bridge was built using 51 ohm chip resistors and a simple balun constructed with 30 bifilar turns of #30 enamelled wire on a stack of four T44-1 toroidal cores. This bridge produced good performance for HF with directivity of 40 dB from 40 metres to 10 metres (reflection coefficient of 0.01 or VSWR of 1.02:1) and quite usable performance down at 80 metres. Refer Trace 1. The only drawback with this bridge is that I get a 180 phase reversal due to the balun so the vector voltmeter must be zeroed at 180 degrees, then 180 degrees subtracted from the final reading. I then tried a slightly modified version of the bridge described by Paul VK3DIP. In my unit I used nine binocular cores and mounted the completed bridge in a box manufactured by soldering pieces of PCB together. I used N connectors instead of BNCs and used single 51 ohm chip resistors instead of two parallel 100 ohm chip resistors. This bridge produced a much greater usable frequency range with, however, slightly less overall directivity performance, 35 dB at 6 metres and 30 dB at 2 metres; still a very good result as 30 dB is only a return loss coefficient of 0.032 or a VSWR of 1.06:1. Refer Trace 2.

The reason for the diverging open and short circuit results obtained with the second bridge is possibly due to the poor quality of my short circuit constructed

Photo 1: The HP 8405A vector voltmeter.



Trace 1

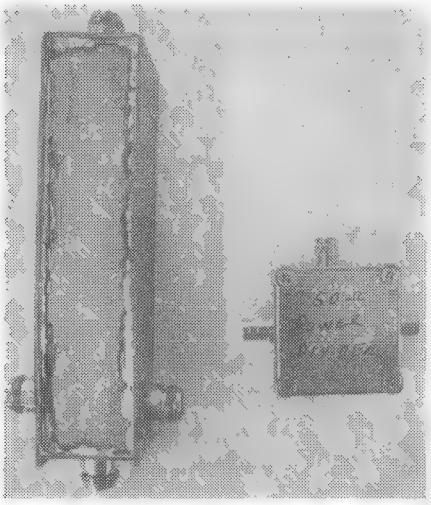
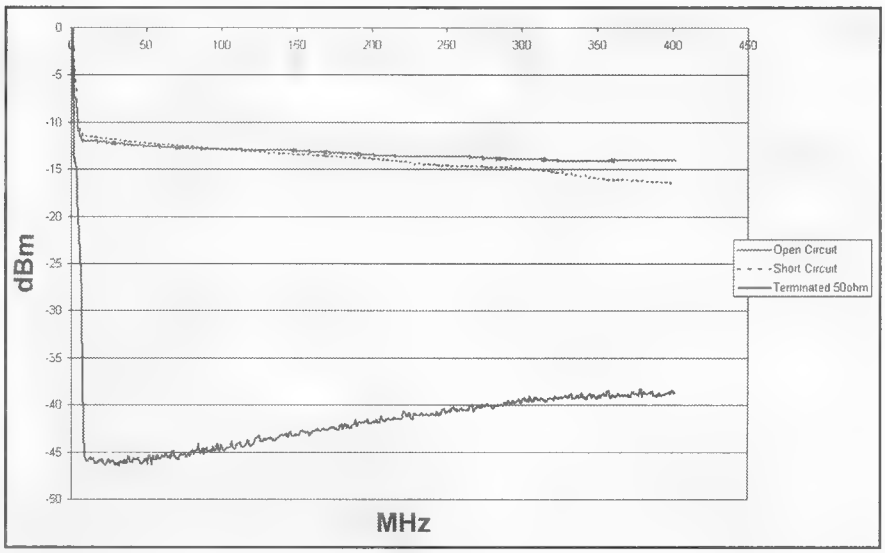


Photo 2: The completed return loss bridge.



Trace 2

with a bit of wire soldered to short out a BNC connector. The traces were done using 50 ohm SMA microwave terminations with a rated VSWR of 1.15:1 at 14 GHz and plotted with an Agilent E4408B spectrum analyser and tracking generator; input to the bridge was 0 dBm. Due to the type of balun, the second RLB did not give the 180 degree phase shift of the first bridge. The results I obtained were not as good as quoted by VK3DIP; however, for real world matching solutions from 80 metres to 2 metres, I am very happy with my results. The other change to Paul's design was my use of semi rigid or hardline coax for the manufacture of the balun.

The Setup

Refer Figure 1

The output of a signal generator is fed through a 50 ohm power divider via an adjustable attenuator to the reference A channel of the vector voltmeter. The second output of the power divider is fed via a 10 dB pad to the input of the RLB. The output of the bridge is fed via a terminated tee connector to the B channel of the vector voltmeter.

The 50 ohm power divider is made of a resistive Y network mounted in a diecast box. Each arm of the Y is made from two parallel 33 ohm chip resistors. Each arm of the Y should actually be 16.66 ohm however 16.5 ohm seems to give good enough results.

The 10 dB pad is used to limit the effect of varying impedances on the test output of the bridge.

The Method

Apply a signal from the generator. With the bridge Zx output unterminated adjust the variable attenuator to match the A channel level to the same reading as that of the B channel (in my set-up this was about 18 dB at 14 MHz) - this will vary with frequency. I also used the 10 mV range on the voltmeter scale to simplify the return loss coefficient readings. Adjust the phase control to zero the phase reading of the vector voltmeter. Now connect the unknown and plot the results directly on a Smith chart using the reflection coefficient scale at the side of the chart and the degree scale around the circumference of the chart. Smith charts can be obtained on line at www.printfreegraphpaper.com

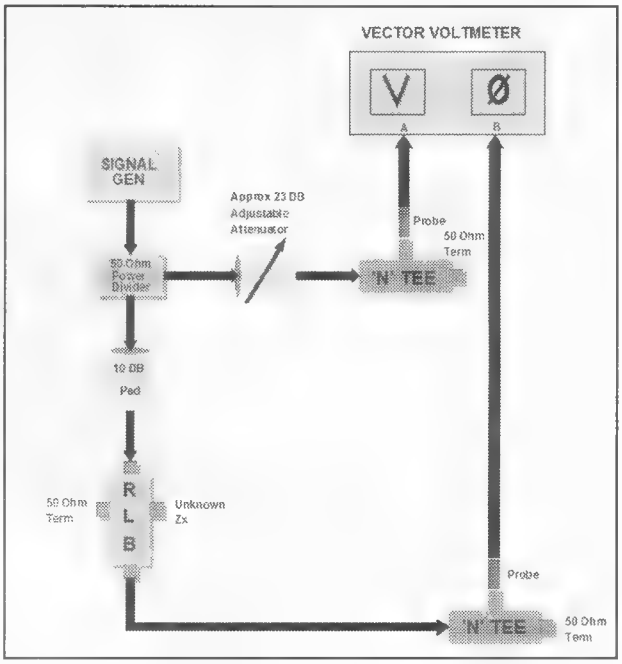


Figure 1: The set up of the return loss bridge to the HP 8405A.

The plot obtained on the Smith chart is normalised, so for instance if we plotted an impedance of 1.2 –j0.6 the actual impedance for a 50 ohm system would be 60 –j30 ohm. To check that I was getting valid plots, I terminated the bridge with a short circuit and got a purely resistive result of about 1 ohm; I then terminated the bridge with a 75 ohm chip resistor and sure enough it plotted right on the money. I then used 100 ohm and again bingo, it plotted just where it should. To check the phase readings, I cut a piece of coax calculated to be 0.125 wavelengths, remembering to take the velocity factor into account. This I measured open and short circuit and sure enough I obtained my 90 degrees both positive and negative. This satisfied me that the readings I was obtaining were actually valid.

continued next page

A better ground plane for mobile antennas

Rodney Champness VK3UG.

Most mobile antennas have less than perfect ground planes. A VHF/UHF antenna mounted in the centre of the roof of a vehicle can be considered to have a good ground plane. For a variety of reasons, mobile antennas are commonly not mounted in the centre of the metal roof of the carrying vehicle. For VHF/UHF antennas, the most likely locations to mount the antenna are on the gutter grip (on older cars), the mudguards at the front of the vehicle or on the boot lid at the rear.

However, it is possible to improve the effectiveness of mudguard and boot mounted antennas by a simple addition to the earthing. It would be nice if the bonnet of the vehicle could act efficiently as part of the ground plane. Normally the bonnet and the mudguard are not earthed directly across to each other where the mudguard mounted antenna base is located – but this can be done.

Looking at the two photographs it can be seen that 'finger stock' as used to RF proof sealed boxes is placed onto the side of the GME antenna base adaptor. It is placed so that the bonnet rubs on the finger stock as the bonnet is closed. It is necessary to remove paint at this particular point and to put a little anti-corrosive paste there to stop any rusting (if the bonnet is metal). By doing this simple modification, a cheap and more efficient ground plane is achieved. I have had my finger stock for several years and I think I got mine from Vorlac (now closed), a subsidiary of Rockby Electronics in Melbourne.

ar

Photo 1: Showing the finger stock attached.

Photo 2: Showing the finger stock with bonnet closed.

Measuring complex impedances

continued from previous page

The Matching solution

Having measured the complex impedance we are now in a position to be able to calculate a matching solution. I do not plan to go into this process here however the hard work of plotting the complex impedance is done and there are numerous tools available, including those on line to help calculate your matching solution. One great place to look is www.amanogawa.com

I have to thank my XYL, VK8YL, for being astute enough to purchase the HP 8405A at an auction along with an Adret 740A signal generator.

References

"A reflection-coefficient Bridge-Impedance Matching Measurements the easy Way". Jack Priedigkeit W6ZGN *QST* October 1981.

"Using the HP 8405A Vector Voltmeter". Richard Sawday VK5ZLR *Amateur Radio* June 2005.

"A simple wideband return-loss bridge revisited". Paul McMahon VK3DIP *Amateur Radio*, June 2007

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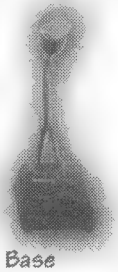

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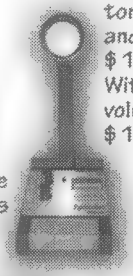

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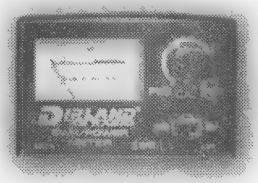

SWR meter
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with power
(26-30 MHz)
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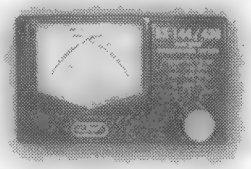

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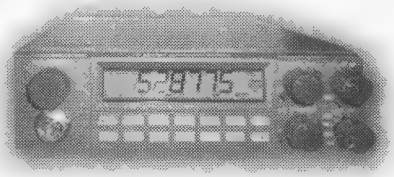

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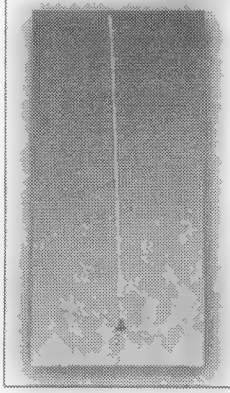

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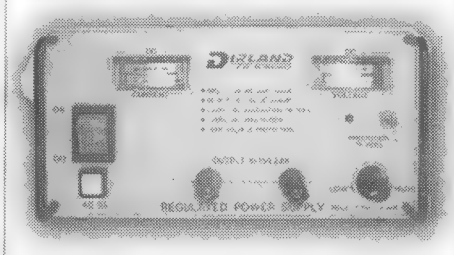

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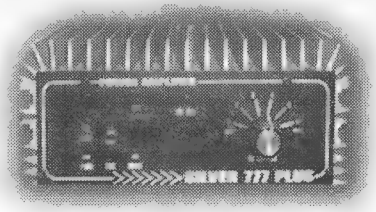

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China is news. China's influence is felt everyday around the world, in trade, international relations and security. No more so than in Australia, where China has now become our most important trading partner, with the total volume of trade in 2007 reaching a staggering A$52.7 billion. With Australian exports fuelling and building China's soaring economy, this relationship will only increase in size and importance, with a projected $A25 billion growth to the Australian economy over a 10 year period.

What does this mean for us radio amateurs? It means that there are tremendous opportunities for Australians to travel to China! In 2006 alone, some 538,000 Australians travelled to China for work, study, family and holidays. At the same time, China's amateur radio scene is growing from strength to strength, with an overwhelmingly young and increasingly English speaking amateur population.

This article will give an overview of my amateur radio experience while visiting Guangdong (Canton) province, as well as the general situation of amateur radio in China.

Amateur radio in China

The general situation of amateur radio in China has mirrored the country's development over the last 30 years. In 1980 with new national policies of openness, economic development and social liberalisation, the national amateur radio body, the Chinese Radio Sports Association (CRSA) began establishing club stations with the goal of developing amateur radio as a recreational and educational activity, (rather than the paramilitary 'radio sports' of the past). In 1993, again reflecting further development of the economy and society, private home stations were permitted for the first time since 1949. By 2000, there were close to 900 licensed Chinese amateurs. From 2001 to the present, through the efforts of the CRSA's public awareness and education programmes, the Chinese amateur radio population has grown exponentially from just over 1000 in 2002 to some 32,000 in 2007.

Photo 1: Exchanging greetings between the ZRSA and the WIA. L to R: He Rongjie BG7IEU, Edwin Lowe VK2VEL, Winnie Gao (ZRSA admin), Fang Yulong BG7IEU (ZSRA Secretary)

According to CRSA figures, the vast majority of Chinese amateurs range from 18 to 40 years of age. Additionally, some 50% of Chinese amateurs have completed a level of technical or university education. These trends suggest that the amateur population in China is not only young, vibrant and dynamic, but increasingly, English speaking (English education begins in primary school). The staggering growth of China's electronics industry has seen a flood of affordable, domestically made amateur radio gear onto the Chinese market (with which VKs are now very familiar), well within the price range of the average amateur. Additionally, imported amateur gear is also well within the range of affordability of the young and prosperous amateur population. The availability of affordable equipment has helped to fuel the growth of the amateur population.

Correspondingly, there has been a proliferation of independent radio clubs, affiliated to the CRSA, which have taken on the task of public awareness, education, and amateur activities. Again, reflecting the phenomenal growth of the internet in China, there has been a proliferation of dozens of websites, discussion boards and mailing lists dedicated to amateur radio. So much so that an estimated 50% of new licensees enter the hobby through an internet based awareness.

Licensing

The Chinese licensing system is structured into four classes of operator's certificate, and progression involves developing a knowledge base that includes the ability to operate in the English language.

Class 4 is the entry level with the BG prefix call signs. Class 4 operators must demonstrate an understanding of regulations, Q codes, the International Phonetic Alphabet and numbers and the ability to operate in the Chinese language by telephony. Class 4 licensees are permitted access to 10 m, 6 m, 2 m and 70 cm, with 15 W on HF and 30 W above 10 m. About 82% of Chinese amateurs are Class 4 operators.

Upgrading to Class 3 (BG and BH prefix) may follow one of three paths of the applicant's choice.

1) A class 4 operator may upgrade though a Morse test of copying 25 words at 5 wpm; or
2) by copying five call signs per minute spoken in international phonetic alphabet in a two minute period; or
3) by demonstrating operating proficiency by presenting 10 domestic or foreign QSL cards.

Class 3 has HF access to portions of 80 m to 10 m bands (less WARC bands), with 25 W and full access to all bands from 6 m to 248 GHz with 30 W. Class 3 operators make up about 12% of the amateur ranks.

Upgrading to Class 2 (BD prefix) requires a significantly higher level of knowledge and ability. Operators must furnish 10 domestic and 10 DX QSLs; demonstrate an ability to answer and reply to calls in English; demonstrate a Morse ability of copying 25 words at five wpm; copy ten call signs spoken in international phonetics in two minutes; demonstrate knowledge of basic radio and electronics theory. Class 2 is permitted full access to all bands, with 100 W on HF and 50 W above HF.

Class 1 (BA prefix) operators must furnish ten domestic and ten DX QSLs; demonstrate an advanced level of theory knowledge; demonstrate a conversational ability in the English language and send and receive Morse at 5 wpm. One kilowatt is permitted on the HF bands.

Photo 2: Edwin with some members of the Zhongshan Radio Sports Association. L to R: Fang Guocheng BG7NZC, Emma XYL, Xu Mingsheng BG7PPK, Li Zebin BG7PHQ, Ms Winnie Gao (callsign pending), Zhang Xiaobo BD7IDF, Fang Yulong BG7IEU, "Sausage" (i.e. not yet a ham), Fang Zechuan BG7NZB

Operating in China

Unfortunately at this time, China has not signed any reciprocal arrangements and so does not permit the issue of "station licences" to foreigners to operate their own station. However, visitors for a period of up to 12 months may apply for an "Amateur Radio Operator's Certificate for Visitors", which will permit operation of either an individual or club station as 'your call/ host call', for example VK2VEL/BG7IEU. Foreigners intending on residing in China for more than 12 months must contact the CRSA on the matter as different regulations apply.

Applying for a visitor's certificate is a very simple process (allow a minimum of two months for this process before your trip) which involves sending an application to the CRSA, including the following;

An application cover sheet stating name, gender, date of birth, nationality, passport number, class of home license, home call sign;

A photocopy of the document page of your passport;

A photocopy of your AOCP and Apparatus Licence;

A passport photo;

$US5.

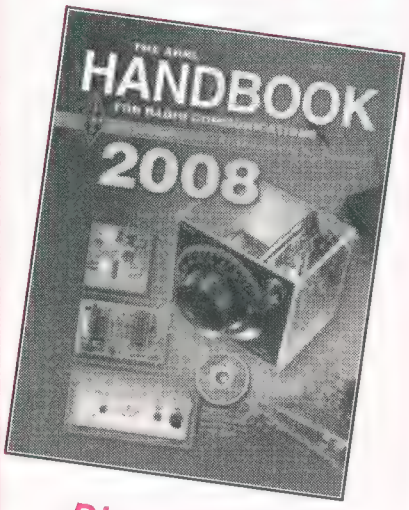
The next step is to make contact with potential hosts! The easiest way is to ask the CRSA for a list of clubs and their contact details in the places that you intend to visit when you are applying for your visitor's certificate. You might even contact Chinese amateurs or clubs directly. If you are planning your trip to China via your work or through a travel agency, especially those specialising in China, or perhaps you know someone who can communicate in Chinese, you could seek their help in working through the literally dozens of Chinese amateur radio websites. You are certain to find that there will be Chinese amateurs who will be able to communicate with you in English and be willing to host your amateur radio experience.

Amateurs travelling to China via Hong Kong can apply on-line for a reciprocal Hong Kong licence (VK Advanced calls only) through the Office of the Telecommunications Authority.

Zhongshan, China – the Australian Connection

A random QSO on 20 m with He Rongjie BG7IEU at the beginning of 2007 turned into a friendship in amateur radio, after Rongjie stated his QTH as Zhongshan in Guangdong province. Zhongshan in the far south of China, 40 km from Macau, is a regional city on the Pearl River Delta and the cradle of China's revolutionary history. Zhongshan has had a long association with the nations of

Amateur Radio Bookshop



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the Pacific Rim. In Australia particularly, Zhongshan people formed the nucleus of early Chinese communities in Sydney, the New England region of NSW and far north Queensland, establishing small businesses, market gardens, produce markets and the banana and sugar industries. In turn China was itself greatly influenced by the Zhongshan people who imported Western technologies, ideas and practises back to China.

Zhongshan's most famous son, Dr Sun Yat-sen led the revolutionary republican movement which overthrew the Imperial dynasty and the 11 year old 'Last Emperor' in 1911, using networks of support and finance in Chinese communities across the Pacific, including Australia. Zhongshan was in fact named after Sun Yat-sen (who is known in China as Sun Zhongshan). Like the name 'Victoria' in the Commonwealth nations, there is a 'Zhongshan' road, park or square in seemingly every city of China and Taiwan (where it is known as 'Chung Shan'), in honour of the 'Father of the Chinese Republic'.

The Australian connection was to change China's shopping habits, when in the first decades of the 20th Century, Sydney based Zhongshan businessmen imported the concept of the Australian department store into China and Hong Kong. The buildings of the 'Big Four' great department stores of Shanghai, staffed largely by Zhongshan people from NSW, still stand along the famous 'Bund' today. These buildings were modelled architecturally and their companies modelled in business organisation and in stock, on the great Australian stores such as Anthony Hordern's, David Jones and Mark Foys. These great Australian entrepreneurs, largely forgotten in Australia today, are celebrated on an entire floor of the four floor 'Zhongshan Commercial Culture Museum'.

Further evidence of the Australian connection in Zhongshan today can still be seen in the colonial style buildings in the pedestrian mall street of Sun Wen Xi Road, and in the smaller businesses of the commercial side streets, all giving the familiar feeling of being in Haymarket, Sydney! Further out in the outer suburbs, once the rural villages, stand literally dozens of enormous walled houses, complete with watchtowers for security, built with money made in Australia, Canada and Hawaii and speaking of the prosperity in the 19th and 20th centuries. The banana and sugar cane fields in the surrounding countryside (not to mention the climate!) reminded me of northern NSW and Queensland. 'Chinese' people speaking English with suspiciously familiar accents can be randomly heard. An Australian would not feel completely out of place here.

Zhongshan lies in the heart of the Pearl River Delta, one of the booming light industry centres of the modern Chinese economy. The Pearl River Delta accounts for a staggering one third of China's trade value, largely in manufactured exports. The prosperity of 21st century Zhongshan is seen in the modern city, with comfortable broad open spaces, built around the heritage of the old town centre and the outer urban areas. Shopping malls abound, Westerners in education and business are a common sight and the usual familiar fast food outlets are everywhere.

An evening with the Zhongshan Radio Sports Association

In October 2007, I was off to Zhongshan, armed with my CRSA issued visitor's certificate, my AOCP (Standard) certified as Chinese Class 2. Prior to the visit, I had contacted my friend He Rongjie and the Zhongshan Radio Sports Association to let them know that I was coming. I was invited to a specially arranged meeting of club members for an evening of amateur radio. I was warmly received by the ZRSA members at the Zero Outdoors Activities Equipment shop, owned by Li Zebin BG7PHQ. The Chinese amateur population is generally young in age and many members of the ZRSA who greeted me are also outdoor adventure enthusiasts and this is one of their meeting places. Although I was familiar with the statistics about the average age of Chinese amateurs, I was still pleasantly surprised to find that I was in the same age group of '30-somethings' as the amateurs who greeted me. It was a pleasant change from the general situation in Australia!

Outside the shop, there was a portable HF station of a Yaesu FT-900 and Diamond multiband dipole and I was invited to the dials. I managed to tune around 40 m and 20 m and called CQ as VK2VEL/BG7IUH/p, although there

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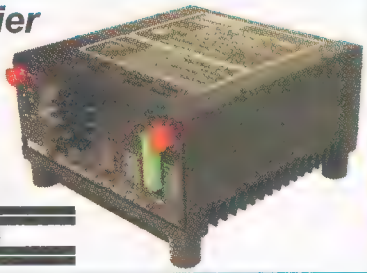

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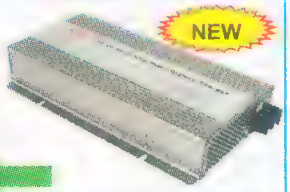

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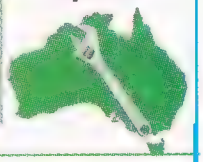

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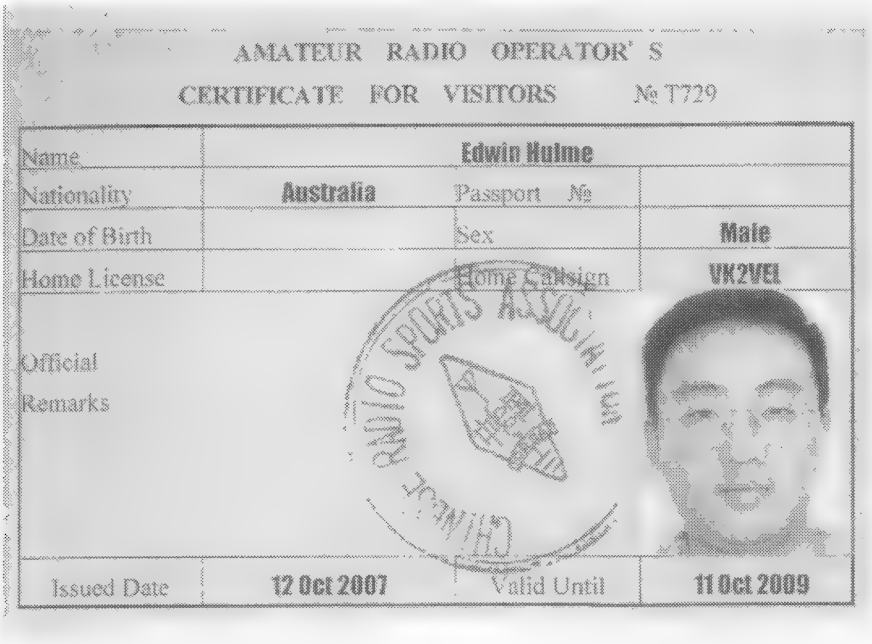

AMATEUR RADIO OPERATOR' S
CERTIFICATE FOR VISITORS № T729

Name	Edwin Hulme		
Nationality	Australia	Passport №	
Date of Birth		Sex	Male
Home License		Home Callsign	VK2VEL
Official Remarks			
Issued Date	12 Oct 2007	Valid Until	11 Oct 2009

Photo 3: CRSA Amateur Radio Operator's Certificate for Visitors

was little time for operating, as the social side of things were getting into full swing.

I presented a certificate of greetings from the WIA to the ZRSA to the club secretary, Fang Yulong BG7IUH. In return, I received a photo of the members of the ZRSA and a car sticker used by the local amateurs bearing the frequency of the 70 cm repeater and the title of CRSA Zhongshan. To prove just how small the world of amateur radio really is, we discovered that the administration assistant, Ms Winnie Gao is the daughter of my mother's school friends, when she was a school girl in Zhongshan in about 1960. A few moments later, old school friends were reunited on the phone!

An outdoor feast was being prepared while the formalities were underway, and now completed, the festivities began. Following the wonderful and happy meal the evening drew to a close and my new friends invited me to return soon for the next visit. I replied that next time, we would spend more time at the dials and less time socialising! My new friends also promised that my visit would include a visit to the "Ham Club", a bar restaurant in Zhongshan owned by another local amateur, and another meeting place for the club! So much for more radio time.....

Photo 4: Colonial style buildings on Zhongshan's Sunwen Xi Road pedestrian mall

Travelling in Guangdong

Travelling to any of the major cities of the Pearl River Delta in Guangdong province has never been easier. Several airlines offer flights to the region via the capital Guangzhou, Hong Kong or Macau. A return flight to Macau with new budget carrier Viva Macau cost me all of $A650 return, after tax. Entry visas are required for China (single entry and multi entry are available), although visas are not required for entry to Macau or Hong Kong for Australian passport holders. Connecting flights to other cities of China can also be made from these airports.

Visitors are well catered for in the major cities of Guangdong, where street signs are in dual Chinese and English. In the cosmopolitan, historic capital of Guangzhou, the excellent underground metro voice announcements are also made in English. The metro lines take you directly to the main tourist sites. The major tourist centres of the region are Guangzhou, Shenzhen, Hong Kong, Zhuhai and Macau. The sky is the limit with shopping and visitors can choose anywhere to shop from department stores, malls to street markets. The opportunities for consumer electronics shopping are especially good, and in particular, the excellent Chinese made amateur radio gear can easily be found in Shenzhen.

Contacts

Chinese Radio Sports Association,
P.O.Box 6106, Beijing 100061,
P.R. China.
http://www.crsa.org.cn/
Phone +86-10-67050878
Fax +86-10-67050899
Email (none listed but try) crsa@hellocq.net

Office of the Telecommunications Authority (OFTA) Hong Kong
http://www.ofta.gov.hk/

Photo 5: VK2VEL/BG7IUH calling CQ on 20 m

Further Reading

The Current Status of Amateur Radio in the Mainland of China. CRSA, 12th IARU Region 3 Conference 2004 http://www.jarl.or.jp/iaru-r3/12r3c/docs/057.doc

Status Report of Amateur Radio in the Mainland of China. CRSA 13th IRU Region 3 Conference 2006. http://www.jarl.or.jp/iaru-r3/13r3c/docs/021.doc

Big White Lie: Chinese Australians in White Australia. John Fitzgerald , UNSW Press, 2007.

The Guo Brothers and the Yong An Company (Cantonese: The Kwok Family and the Wing On Company). John Fitzgerald, La Trobe University. http://131.172.16.7/stories/guo_bros.htm

Department of Foreign Affairs and Trade (Country and Travel Information) http://www.dfat.gov.au/geo/china/index.html

Author

Edwin Lowe VK2VEL is a Lecturer in Chinese Studies at the Department of Asian Studies, Macquarie University. Edwin teaches Chinese history and contemporary China studies.

Special thanks to Michael VK3KI, Robert VK3KRB and Margaret at the WIA for the certificate of greeting to the ZRSA.

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Silent keys

Les Gaborit VK2LW

It is with regret that I advise the passing of Les Gaborit VK2LW. He was aged 84. Les was killed in a motor vehicle accident on Wednesday 2 April 2008, when his car ran off the road near Ballina in northern NSW.

He was an active and popular member of the Summerland Amateur Radio Club and a Life Member of the Blue Mountains Amateur Radio Club. He was also a member of the Alstonville Probus Association and had held the positions of President and Treasurer.

Les served in the RAAF during World War II. In the early 1990s, Les took on the role of net control on a daily (17:00 local time) 80 metre net, after the founder, Col Patterson VK2BCP, suffered a stroke. Les was also a regular on the Blue Mountains ARC Tuesday night 80 metre net. We extend our condolences and thoughts to his family and friends.

Vale Les Gaborit VK2LW,

John Watt VK2QN,
Publicity Officer, Blue Mountains Amateur Radio Club.

Bruce Cameron VK7GC

Bruce Cameron VK7GC became silent key in the early hours of Thursday the first of May 2008 at the Georgetown Hospital following a short illness with cancer.

Bruce was a well respected member of the Mole Creek community until recent years, when he and wife Betty moved to Georgetown where he soon became involved with community affairs, in particular Probus.

Bruce joined amateur radio in about 1986 and was a regular member for many years at Northern Club meetings and other state functions when able. Bruce was a foundation member of our 8.30 am 80 metre net and we shall miss his cheerful voice and words of wisdom.

In 2007 Bruce, who was crippled in a logging truck accident in his early life, produced a book from his life's diaries which makes very interesting reading, and demonstrates the determination and character of a man who spent the last 50 plus years in a wheel chair.

Farewell dear friend

from Don VK7AY.

A swept-frequency generator

Paul Anderson VK2GPT

This article describes an instrument which when used in conjunction with a cathode ray oscilloscope (CRO), displays the amplitude/frequency characteristics of linear filters, tuned circuits and the 'Q' of inductors. A total of forty one markers is displayed simultaneously with the frequency response curve. This unit is useful as a teaching adjunct or as a servicing aid in aligning filters used in communication equipment.

A voltage controlled oscillator (VCO), IC3, generates a signal in the range 37 kHz to 800 kHz, the operating frequency being determined by the combined settings of a coarse control VR4 and a fine control VC1. The optional addition of a 390 pF capacitor across VC1 extends the low frequency limit to 18 kHz. Output is available at high (1 MOhm) and low (600 Ohm) output impedances. When filters of specific low input impedances are investigated, they should be connected to the low Z terminals through an appropriate resistive matching pad external to this unit. All outputs, counter and CRO measurements are taken with reference to a common terminal.

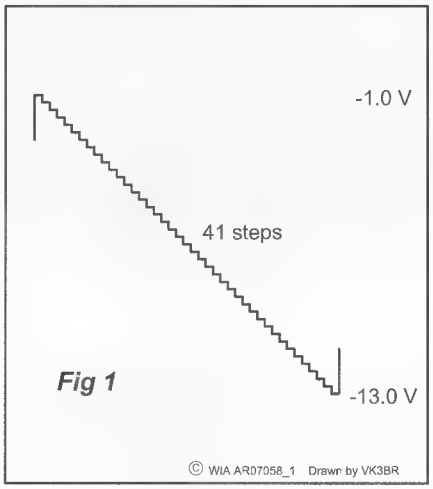

Figure 1: Sweep voltage at output of IC2

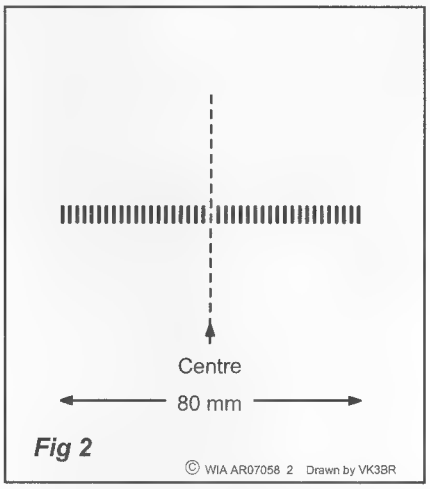

Figure 2: Typical sweep signal on Display

Circuit description

Frequency modulation of the VCO is achieved by applying a varying potential to pin 5 of IC3, such variations being obtained from the output of a staircase generator IC2. The staircase consists of forty one steps which together constitute one sweep. Each consecutive step causes the VCO to change frequency by a small increment. IC2 is an integrator used to linearise the output of a diode pump (C3, D1, D2) fed from a square wave generator IC1. Q1 resets the output of IC2 to start the next sweep. A total of forty one markers per 80 mm of sweep is available for frequency identification. These 'markers' are not actual markers but an artefact that is generated because the oscillator steps between a number of discrete frequencies instead of sweeping continuously.

Setting up procedure

All CRO measurements are taken with a DC coupling and a passive 10:1 probe. Apply power and allow a warm-up period of at least ten minutes. Set all potentiometers and VC1 to mid position. Set switch S1 to open, that is, no FM.

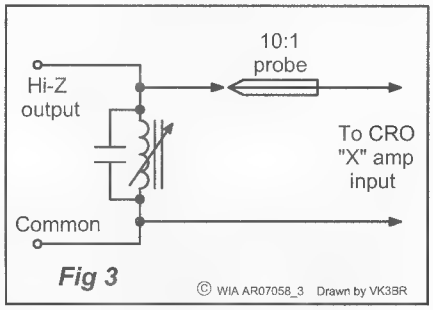

Figure 3: Test circuit to measure resonance curve

Connect the CRO probe to pin 10 of IC1 and adjust VR1 to obtain a square wave of one ms duration. Connect the probe to the unit's terminal marked CRO 'X'. Set VR2 to obtain a descending staircase extending from minus one volt at the top of the screen to about minus thirteen volts at the bottom. Reset VR2 if necessary to avoid the appearance of a straight horizontal line at the bottom. Final setting consists of suppressing the last one or two bottom steps. Figure 1 shows the waveform thus obtained.

Usage

Example: To display the resonance curve of a typical 455 kHz IF inductor.

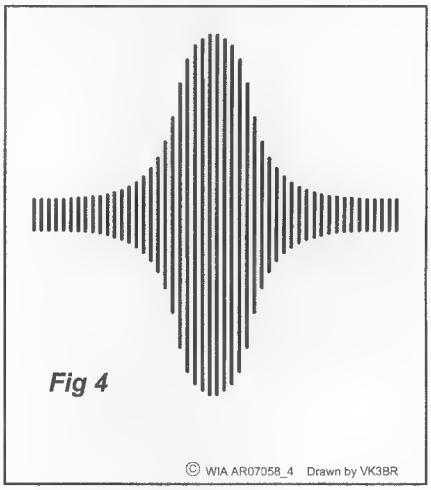

Figure 4: Typical single tuned circuit resonance curve

Note: Most CROs are equipped with a switch to disable the internal sweep and use an external sweep signal to drive the horizontal deflection via the 'X' channel amplifier.

Close switch S1. Connect the unit's 'X' terminals to the CROs 'X' amplifier input by setting a relevant switch located on the CRO and specifically provided for that function. Centralise the horizontal sweep as shown in Figure 2

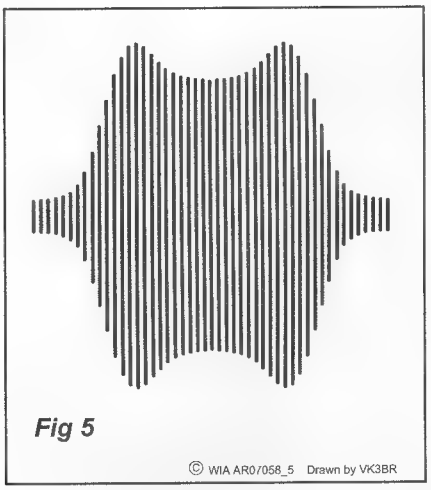

Figure 5: Typical response of over-coupled pair

Parts List

All resistors 0.5 W, 1% metal.

R1	5K6	VR1	100K	lin pre-set
R2	8K2	VR2	2K	lin pre-set
R3	1K	VR3	100K	lin
R4	1K	VR4	20K	lin
R5	1K5			
R6	22K			
R7	10K	C1	2n7, 100V polyester	
R8	2K	C2)		
R9	1M	C5)		
		C6)		
		C9)	220n, 50 V, monolithic	
IC1	CD 4047	C3	4n7, 100 V, polyester	
IC2	TL 071	C4	220n, 100V, polyester	
IC3	LM 566	C8	1n, 100 V, polyester	
		C10	100p, 5%, ceramic	
		C11	220n, 50 V, monolithic	
Q1	2N 6027	C12	100p, 5%, ceramic	
	Optional – 390p, ceramic			
D1	1N 914			
D2	1N 914			
VC1	Mini tuning capacitor, 60-160 pf, two sections in parallel, Jaycar RV 5728			

(this is shown with the 'High Z' terminal grounded). Connect the inductor under investigation and a 10:1 probe as shown in Figure 3. Rotate VR3 slowly to display a resonance curve. Refer Figure 4. Always search for the largest deflection which is indicative of operation on the fundamental and not on harmonics. The bottom half of the display being a mirror image should be disregarded. Connect a frequency counter to the unit and adjust CV1 to read 455 kHz on the counter. Adjust the slug of the inductor to centralise the pattern on the screen.

Adjust VC1 to place the peak of the response at the start of the scan and take a frequency reading (say, 432 kHz). Do the same at the other end of the scan and note again the frequency (say, 480 kHz). The difference between the two is the total shift (480-432 = 48 kHz). Therefore two consecutive markers are separated by 48/40 = 1.2 kHz.

A typical response for an over-coupled pair is shown in Figure 5. The design can accommodate variations in parameters such as sweep speed and number of markers in which case C3/C4 may have to be altered in value.

The regulated power supply is conventional and shown in Figure 6 together with the circuit of the frequency-swept generator.

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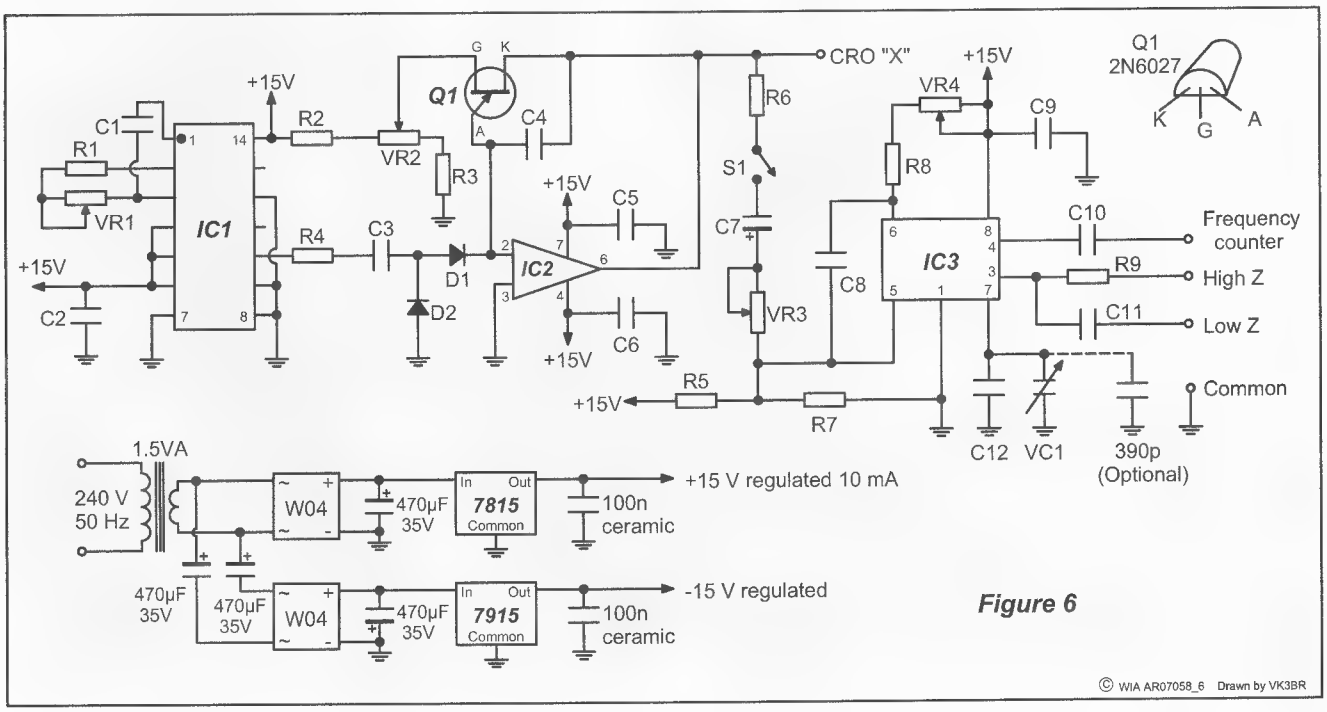

Figure 6

Figure 6: Circuit of sweep generator

The John Moyle from New Zealand

John Hammond VK4TJH

Some bad planning with timing a trip to New Zealand meant that we were going to be away for the John Moyle weekend. What to do? Obvious – take a radio and aerials with us. My XYL, Catherine VK4VCH, is the competitor in the family and after discussing the holiday limitations, we realised that we would not be in a position to compete for the full 24 hours and it was decided that Catherine would just work the first six hours of the contest, being the Saturday afternoon.

We have a FT-900 that we use portable, and after finding a suitable bag (a microscope case) this was carried as hand luggage. Packed in our bags was a 20 m length of good quality RG58, a quick change balun, wire for a 20 m and 40 m dipole, cord and an extended power cable. We did plan the South Island part of our holiday so that Saturday 15 March would find us at Westport, on the west coast. A couple of chairs were borrowed from the park where we were staying but finding an available table became impossible and we were forced into buying a plastic one (that later was given to friends).

After finding a suitable spot, just above the beach with appropriately spaced trees, a weighted bag soon had the cord over trees and we set up the 20 m dipole. Power came from the hire car battery. Apart from a constant wind, it was a lovely sunny, nearly warm afternoon. Catherine worked 20 m through to about 0600 Z, when she changed to 40 m for the last hour. Around 80 contacts were made into VK, with one JA. Interestingly not one ZL contact was made; this we do not understand.

The end of the six hours was just before local dusk, and by then the temperature had dropped noticeably, and after a quick pack up it was time to find some hot food.

Even with the extra hassle of taking the radio and all the gear, and the explanations when going through customs, it was certainly a worthwhile experience, and even though we were travelling lightly equipped, it just demonstrates how easy it is to be able to operate portable (and if need be in an emergency environment) and to have some extra radio fun, even on holidays.

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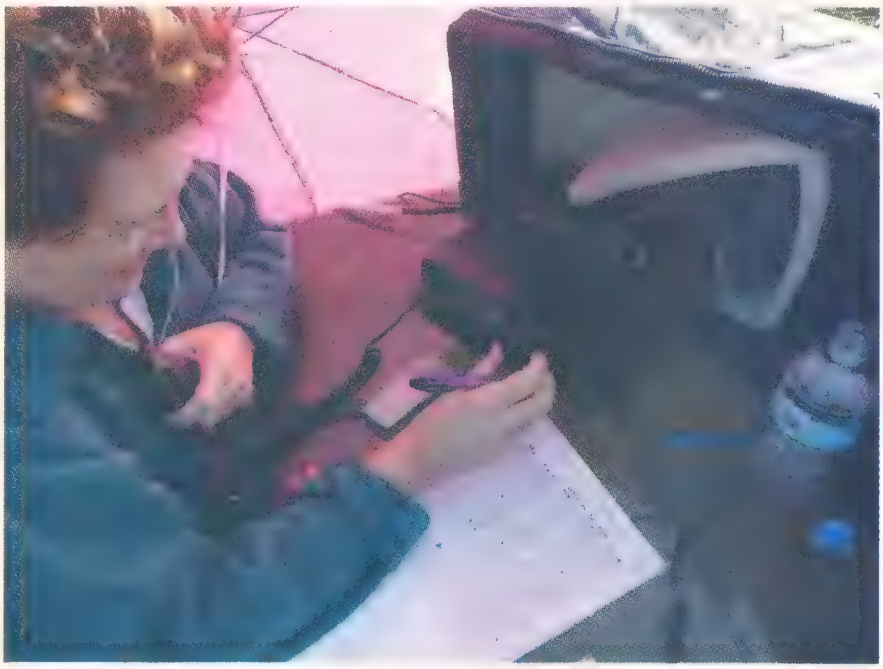
Catherine VK4VCH operating the John Moyle portable from New Zealand, under her pink umbrella "shack". Note the power source. The seaside view certainly is very pleasant, and surely assisted with propagation.



Catherine VK4VCH hard at work during the John Moyle, from a portable seaside location in New Zealand. Note the microscope case used to transport the FT-900.

Relocation of the Riverland repeater VK5RLD

Doug Tamblyn VK5GA

The Riverland repeater VK5RLD, at Berri in South Australia, is to be relocated to Kingston-on-Murray, some 22 km from its present site.

The present site at Werner`s Linen Service in Berri is required for expansion to the premises.

The new site will give better access to the Barossa Valley repeater VK5RBV at Mt Kitchener, and the south east repeaters at Willalooka near Bordertown and Mt Benson near Kingston.

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Photo 2: Standing next to the lowered tower are:
Back, from left: Grant VK5FGME, Ian VK5NIW, Mal VK5MJ and Robert VK5TRM. *Front:* Doug VK5GA.

Photo 1: Ian Campbell VK5NIW attaching the crane cable to the tower for lowering.

Photo 3: The tower loaded for transport to the new site.

Newcastle celebrates Scouting's centennial

Gianni Mazzantini VK2FGCV.

More than 2500 Scout youth members converged on the Newcastle foreshore on the weekend of the 22nd and 23rd September, to celebrate 100 years of Scouting.

Eighty five scout groups from the Hunter and Central Coast regions of NSW were represented over the two day event that included activities such as abseiling, amateur radio, canoeing, bungy jumping and camping.

A band of enthusiastic Foundation licensees guided by Hunter Radio Group members, set up and manned a portable field station that was tried, tested and proved itself worthy in operations and resistance to Saturday's gale force winds and threatening rain!

The station used the VK2SOA callsign, which itself attracted a 'Special Event Station' status (and two points for contacts to other scout operators) with regards to 'The Centenary of Scouting 100 Award'. Details are available at www.scouting100award.org/

The station's operators, Paul VK2FPAC, Karen VK2FKRN and Gianni VK2FGCV (who is also a Cub Scout leader) showed prospective amateurs the ropes and introduced them to basic radio communications, as well as the Echolink system.

The weekend was a steep learning curve for the first timers, but a great rehearsal for the upcoming worldwide event which is JOTA.

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Photo 1: Paul VK2FPAC (left) and Gianni VK2FGCV at the operating position.

Photo 2: Paul VK2FPAC shows a young 'might be' ham how to operate the scout station VK2SOA.

Equipment review

Exploring the complexities of the Yaesu FT-950 HF and 6 m transceiver

Ron Fisher VK3OM, Bill Roper VK3BR
and Eric Buggee VK3AX

The Yaesu FT-950 HF and 6 m transceiver is a 13.8 V operated transceiver designed to be used with an external power supply. It has similarities with both the FT-2000 and the FT-450; however, compared with the FT-2000, it has a single receiver only, 100 watt output, and no inbuilt power supply.

The price range puts it in between these other two transceivers and gives Yaesu the widest range of HF transceivers on the market. The FT-950 measures 365 mm wide by 115 mm high by 315 mm deep and weighs only 10 kg, mainly because of no built-in AC power supply.

The transmitter is set up to cover only the standard HF and 6 m amateur bands but the receiver is full general coverage from 30 kHz to 56 MHz. The transceiver covers all modes, SSB, CW, AM, FM, RTTY and packet.

Worthy of mention at this point in the review, before we get into the 'nitty gritty', is that the FT-950 is a very sophisticated and complex piece of equipment. No doubt many will simply take it out of the box, connect it up to power and an antenna, and operate it quite happily. In fact, the reviewers did just this initially and experienced good results.

However, if you want to get the maximum capability from the FT-950, you will need to spend a considerable amount of time having fun exploring the many menu and other settings.

Similarly, if we were to do a complete review of this transceiver, and explain all of its facilities, we would more than fill an issue or two of *Amateur Radio*. Therefore, this review covers only what we see as the more important features that a prospective purchaser would be interested in. If you want a full set of specifications, then we suggest you look on the internet, or contact a Yaesu dealer to obtain a copy of the comprehensive FT-950 brochure.

Photo 1: The FT-950 HF to 6 m transceiver.

What is the FT-950

The transceiver adopts a triple conversion design with a first IF at 69.450 MHz, a second IF at 450 kHz and a third IF of 30 kHz where the digital signal processing occurs. Three roofing filters with bandwidths of 3, 6, and 15 kHz operate at the first IF frequency immediately after the first mixer. A comprehensive menu system provides access to 118 different sets of adjustments.

Display presentation is very good with S meter, PWR out, SWR, ALC and also input voltage metering, presented in a bright, easy to read linear vacuum fluorescent display format.

Immediately to the right of the metering section of the display panel there are four rows for the various receiver signal enhancement functions. The top row is the 'Contour' function display, the second row is the' Notch' function, the third row displays the 'Width' function, and the bottom row is the 'Shift' function. In combination, these control graphics indicate the actuality of the various settings for the individual, key selectable control knobs below the display panel.

Above the aforementioned four rows are displayed the settings for the receiver front end and AGC, which include from left to right, antenna selection, attenuator selection, filter selection (with the optional RF μTuning units connected – these were not supplied with the transceiver on test), IPO (pre-amp) selection, roofing filter selection, and AGC decay time constant selection.

Frequency, mode selection, VFO, and Rx and Tx clarifier, are all displayed to the right above the main tuning knob, with its surround of attendant selection buttons for VFO/memory menu and various memory/band stacking control buttons.

To the right of the frequency display are the Band Selection keys in four rows

of three keys, with the mode selection keys to the extreme right.

Below this grouping are the attenuator, IPO, roofing filters and noise blanker keys, with larger than normal concentric control knobs for receiver audio and RF gain. Further to the right are the logically grouped Rx and Tx clarifier keys with the clear key to the extreme right. Below these are the clarifier frequency offset control with its attendant grouping of Rx and Tx indicator/switch LEDs.

At the very bottom of the panel are the MHz and memory channel keys. When the MHz key is pushed it enables the CLAR/VFO-B control to tune the receiver up or down in menu selected steps.

The main display is reminiscent of the FT-2000 and is a very bright fluorescent unit, well sorted out and easy to read. Most people will have the display set on full intensity, which is set through the extensive menu system.

Some of the features of this transceiver include a high speed antenna tuner with 100 memories, a parametric microphone equaliser similar to the FT-2000, a reasonably effective speech processor, and a transmit monitor facility. One of the more useful features is the triple band stacking register, which effectively gives you three memories on each band at the push of the band button.

The CW enthusiast has not been forgotten with features such as the CW zero-in facility, the CW spot switch, key jacks available on both the front and the rear panel, a built-in electronic keyer with 4 to 60 wpm capability, full CW break-in, and five message memories holding 50 characters each.

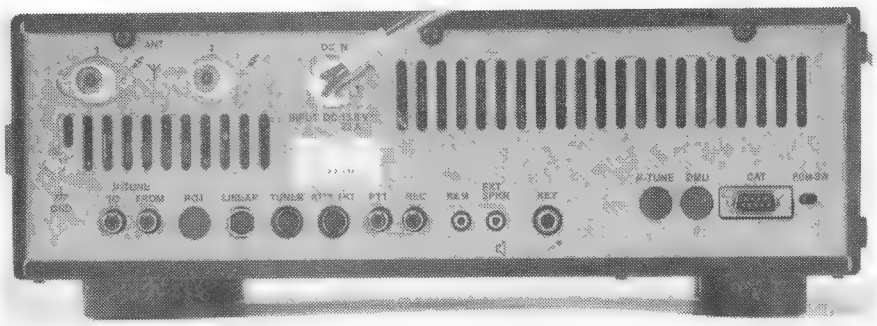

Photo 2: Rear panel of the FT-950 transceiver with the DC input cable plugged in.

A very desirable facility is the TCXO (temperature compensated crystal oscillator) which provides 0.5 ppm stability at normal room temperature, ideal for modes such as PSK31 and the like.

The rear panel (see photo) provides comprehensive interfacing with external equipment such as a linear amplifier, a computer, and packet peripherals, plus two antenna inputs which are selectable from the front panel. Unlike some other transceivers, there is no input available for a separate receive antenna, and no low level RF output for VHF/UHF transverters.

The 10 pin mini-DIN socket is used for control of an external linear amplifier; however, the 10 pin plug is very difficult to obtain!

The transceiver is supplied with an MH-31 hand microphone which has up/down frequency buttons on the front and a fast tuning button. On the rear of the microphone is a two position 'tone' switch which, in one position, gives some bass cut in the frequency response.

On the air

As mentioned earlier, the FT-950 requires an external 13.8 V power supply with a peak current rating of at least 22 amps. However, the reviewers found that an earlier Yaesu power supply, an FP-707 rated at 20 amps, was more than adequate to do the job. The power cord supplied with the FT-950 is nearly three metres long with the fuses on both leads

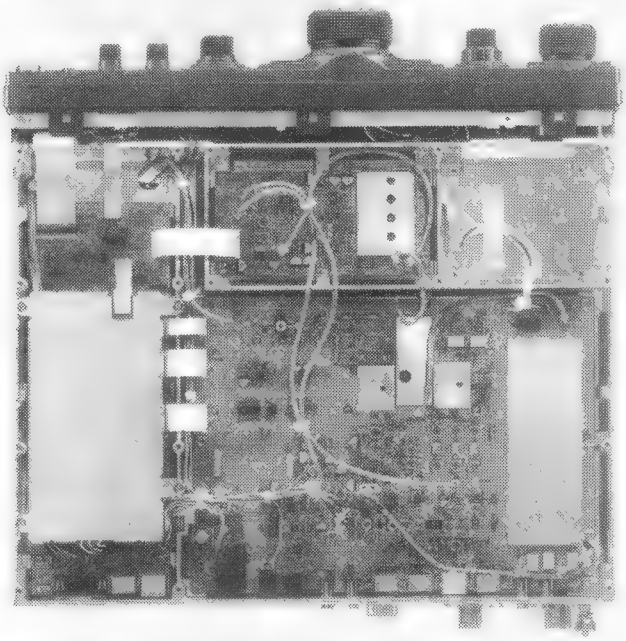

Photo 3: An underneath view of the FT-950 with the case removed.

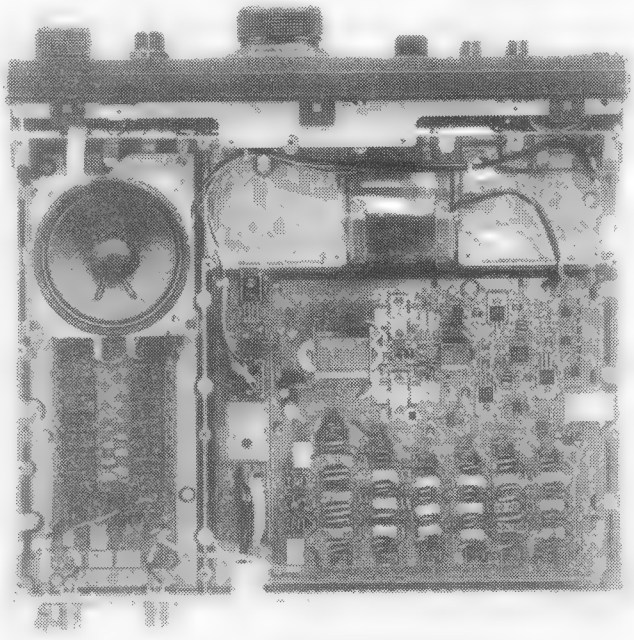

Photo 4: A top view of the FT-950 with the case removed.

within 20 cm of the power supply end. If you want to shorten this lead, replacing the fuse holders would be difficult.

The power lead consists of two entirely separate heavy current (20 A) wires, one red, one black. The separation of the wires decouples their mutual fields which can no longer cancel and will increase the likelihood of stray RF field pickup. In most installations this may not be a problem, but in some situations it certainly will not be helpful. The connection to the transceiver is via the new style "standard" four pin power plug.

On initial setup, the bright display was very much appreciated. However, the labelling for all of the knobs and switches on the front panel is in grey which, in dim light, made control identification somewhat difficult. White would be preferred! Incidentally, one great improvement over the FT-450 is the adjustable height feet under the front of the cabinet.

The receiver

The main tuning control, which is a weighted knob 50 mm in diameter, has a very smooth flywheel effect with the tension being adjustable. Tuning steps are menu adjustable for 1, 5, and 10 Hz on SSB and CW. The 5 Hz step was preferred by the reviewers. AM and FM steps are 100 Hz, and the 'Fast' button increases all the steps by a factor of 10. Frequency readout on the dial is to 10 Hz on SSB and CW.

The second VFO tuning knob, for VFO B for split frequency operation, is 35 mm in diameter. The buttons to select either VFO are brightly illuminated when pressed and make it very easy to understand which VFO is in operation. This control is also used for RIT and XIT operation and for fast tuning in 100 kHz to 1 MHz steps (menu selectable).

The DDS/PLL frequency synthesiser utilises high frequency clocking from a 0.5 PPM TCXO with a divide by four function to minimise close-in phase noise, which confers a cleaner signal on both transmit and receive. In addition, there are four VCOs to cover the frequency range of the FT-950.

99 memories are provided which store all transceiver settings, including frequency.

On initial switch-on, it was found that the receiver audio was somewhat lacking in high frequency response. Adjustment of the 'Width', 'Shift' and 'Contour' controls overcame this to some extent, while menu adjustment of the carrier oscillator made another worthwhile improvement.

The 'Width' control varies the receive bandwidth from a narrow 1.8 kHz to a wider 3.0 kHz. The 'Shift' control moves the band-pass within the confines of the filter. The 'Contour' control enables you to shape the receiver band-pass by rolling off the high or low frequency components in the received signal. Adjustment and experimentation with these three controls will enable the user to adjust the frequency response of the received signal to suit themselves.

The menu system on the FT-950 is similar to that of the FT-2000 and the FT-450. It contains 118 selectable items, many of which would not be used unless the optional accessories, such as an external automatic ATU, the optional RF μTuning kits, or the DMU (Digital Management Unit) were connected.

Any menu item can be consigned to the 'CS' button which is immediately above the 'Menu' button. However, there are a number of often used menu items, such as the DNR (Digital Noise Reduction), the DNF (Digital Notch Filter) and the transmit power output which are a little clumsy to use in a hurry from the menu system. What a pity that Yaesu did not include a stacking register on the 'CS' button to enable quick selection of, say, five or six menu items!

The DNR provides 15 different noise analysis parameters for digital noise reduction. No doubt it is very effective under some circumstances, but the reviewers were not overly impressed with its performance.

The manual notch filter provides a depth of more than 60 dB and is very effective in all modes. The digital notch filter (DNF) automatically notches out multiple interfering tones in the passband, but its effectiveness is reduced with noise or other signals in the passband.

A feature of the FT-2000, FT-450 and this FT-950 transceiver is the inclusion of roofing filters. The FT-950 has three roofing filters at 3, 6, and 15 kHz bandwidth which can be automatically selected by mode. No doubt these make a worthwhile difference under busy band conditions, but the reviewers had difficulty, when tuning around the bands, in noticing any worthwhile improvement in reception.

Eric VK3AX put the FT-950 through its paces on his comprehensive test bench and found that the claimed performance figures are met and/or exceeded in all major areas.

Eric did not tabulate the measured figures, but commented in one area, that the MDS (minimum detectable signal) performance was exemplary. The MDS for SSB on 14.180 MHz was -135 dBm (0.05 μV). This figure was typical for all bands from 160 through to 6 metres and was within 0.1 dB band to band. This is most impressive! To explain MDS for those not familiar with the term, MDS is where the minimum detected signal causes a 3 dB increase in the audio output above the internally generated noise of the circuitry of the radio.

The transmitter

On the transmit side, one of the first things to note is the built-in automatic ATU (antenna tuning unit) which operates only on transmit over the amateur bands from 1.8 to 50 MHz, and will provide matching to an antenna feeder with up to 3:1 VSWR. With 100 memories to store various ATU settings, rapid and accurate reselection is obtained.

A speech processor, VOX and a transmission monitor are provided for voice modes. Initial on-air reports of transmit audio quality on SSB again reflected a severe lack of high frequency response. Much menu adjustment and experimentation with the parametric microphone equaliser, and the transmit bandwidth selection (2.2 to 2.9 kHz), finally resulted in a pleasant sounding quality, particularly when using a good desk microphone, such as the MD-1, in lieu of the supplied hand microphone.

With the transmit bandwidth set to 300 to 2,700 Hz we did a frequency response test feeding a calibrated audio oscillator into the microphone input and measuring the transmitter power output. The results were as follows: with 1 kHz set at 0 dB as the reference,

250 Hz was -20 dB;
300 Hz was -12 dB;
400 Hz was -1.0 dB;
500 Hz was -1.0 dB;
1.5 kHz was -1 dB;
2.0 kHz was 0 dB;
2.5 kHz was -2.0 dB;
and 2.7 kHz was -17 dB,

there was no reading at 3.0 kHz input.

This compared favourably with the response of my tried and trusty FT-1000. The response of the FT-1000 was slightly better at 2.7 kHz which was 10 dB down at this point. The bandwidths mentioned in the manual give no indication of the responses in that bandwidth.

When the speech processor was switched into circuit, reports of distortion, without much added 'kick' in the signal, were received. No doubt, after judicious adjustment of the parametric microphone equaliser settings for the speech processor, better results could be obtained.

The transmitter power output is very close to the specified 100 W for each band, plus or minus a very few watts.

The 128 page FT-950 Operating Manual is well illustrated and does a good job of explaining the radio's features and operation. It is well worthwhile spending some time going through the manual and trying all of the features and settings. Yaesu offers a PDF version of the manual on the Web.

Conclusions

Perhaps there are some areas that could be better (such as the menu selection facility), but the FT-950 is a good looking radio with many very nice features and an excellent overall performance.

The Vertex Australia Pty Ltd list price for the FT-950 is $2,800, but it may be available from Yaesu dealers at a discounted price. Whatever the price, the FT-950 is good value for money.

Thank you to Yoshi and the gang at Vertex Standard Australia Pty Ltd (particularly Peter and Mark) for making the review transceiver available to us.

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Comment from Vertex Standard (Australia)

With reference to the difficulty in obtaining the 10 pin mini DIN plug for the external linear control, this plug (Part number T9207451), complete with 2 m of cable with bare ends, is a standard stock item in our warehouse. Contact any of our authorized dealers if you require one.

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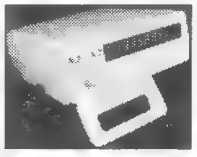

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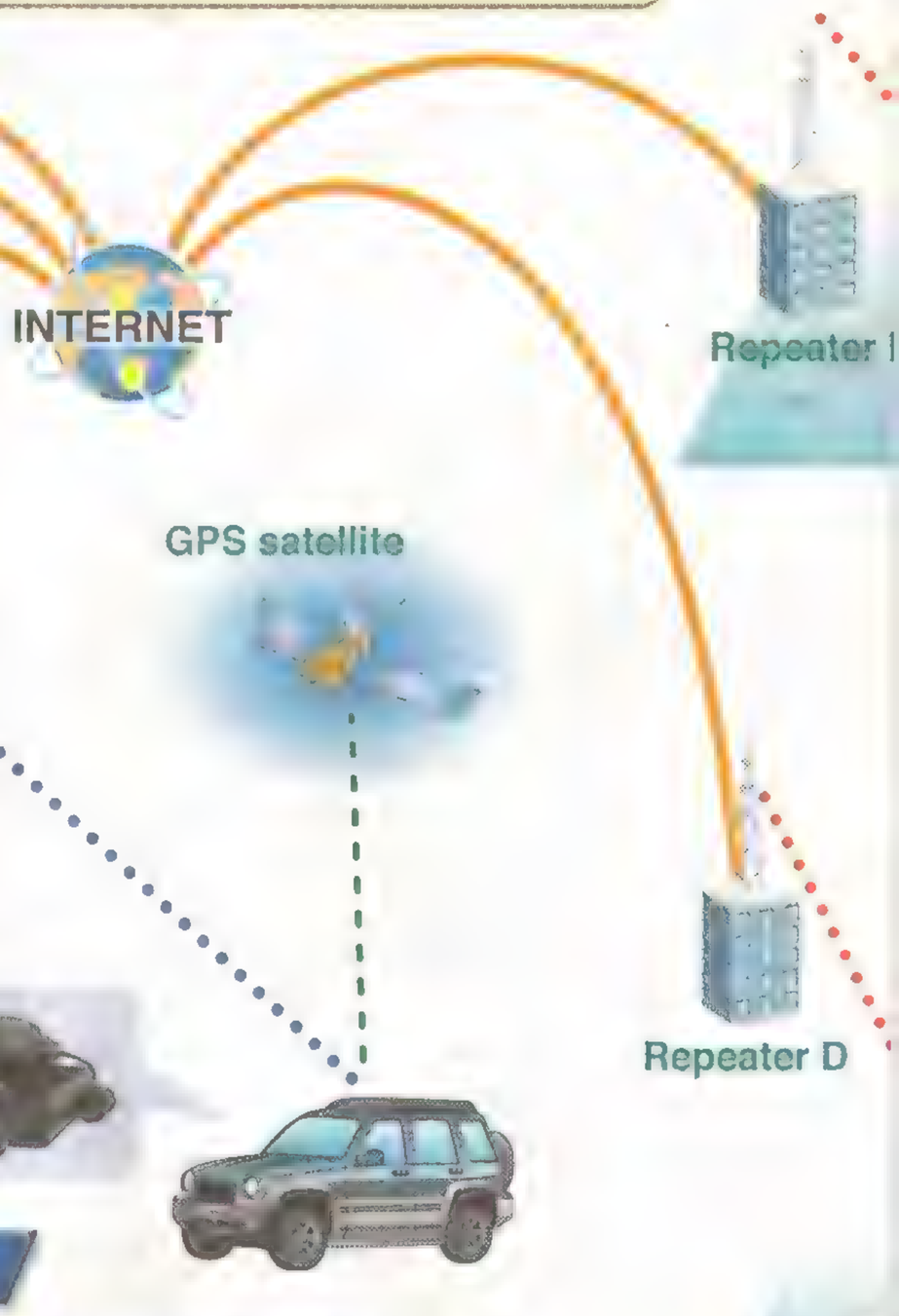

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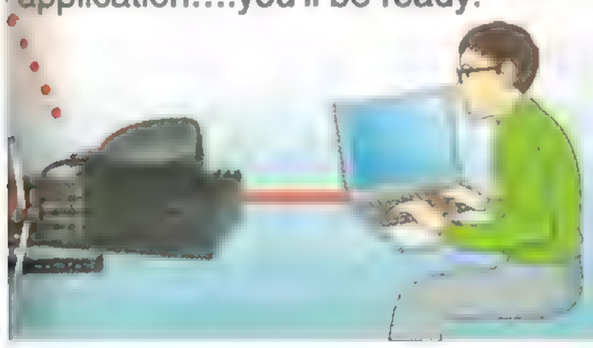

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1. "D-STAR only works on 1.2 GHz."

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2. "There's no difference between D-STAR and packet"

FACT

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3. "D-STAR is no different from IRLP or Echolink®"

FACT

VOIP systems like IRLP and Echolink® are only capable of routing voice signals. They don't support data exchange at any speed. Calls targeted to a specific user are not possible by any amateur technology except D-STAR.

4. D-STAR is just a digital party line!"

FACT

The ability of D-STAR repeaters to route data and digitized voice worldwide sets it apart from a single party line. Sophisticated D-STAR controllers and gateways implement modern telecommunications functions in an amateur package.

5. "D-STAR is a replacement for broadband home Internet"

FACT

Truly a fantasy! D-STAR can connect a user to the internet, true, but all of the amateur radio restrictions on commercial activity still remain in place. D-STAR will provide the tools for a lot of great amateur innovation, but it's not intended to replace Internet providers.

6. "D-STAR won't work with APRS®"

FACT

Except for the ID-1, All D-STAR radios can do DPRS when connected to a GPS receiver. The exciting thing is, with D-STAR being an open protocol, software experimenter, Pete Lovell AE5PL, has written a program that interfaces DPRS to APRS® and sends the converted APRS data to your APRS IS gateway. This means you can see all the new D-STAR stations on UI-View®. With the "D-STARTNC2" application, any D-STAR repeater with a gateway can send DPRS □APRS data to the APRS Internet system. The D-STAR team will be implementing this interface in Australia.

7. "I'll be locked into Icom equipment forever."

FACT

While Icom is the first manufacturer to support D-STAR, any manufacturer or amateur can use the JARL standards to create equipment – transceivers, repeaters, and gateways – compatible with the D-STAR system. As the D-STAR system grows, look for other manufacturers to join the fun.

News from...

VK2

Tim Mills VK2ZTM
c/- arnews@tpg.com.au

Earlier this year Jo Harris VK2KAA was honoured by being named Ku-ring-gai Citizen of the Year for her voluntary service to many community groups, including the Ku-ring-gai Historical Society.

Also noted in the award was her involvement in WICEN – in particular the area's storm of 1991 and bushfires of 1994. On the Amateur Radio side was involvement as Mission Control for the Dick Smith VK2DIK Balloon flight and the Wahroonga Historical Amateur Association with the annual special event stations VK2IMD and VK2WAH. For some decades Jo also provided extensive record keeping of VK2 callsigns, and their respective holders and history down the ages.

Oxley Region annual field day is on the Queen's Birthday weekend 7th and 8th, in the Sea Scout Hall in Buller Street, Port Macquarie.

Waverley ARS has notified a change of date for its annual auction from the 21st June to the 12th July. Both these events have the details shown on pages 32 and 33 of May AR.

Riverina Field Day. Also there is the longer notification of this event at the end of August.

Illawarra ARS hold its 60th birthday dinner on the 10th June, and for this month, the special call VI2AMW60.

WICEN has the annual Nav. Shield exercise to the south of Sydney on July 5th and 6th.

Summerland gives advance notice of SARFEST to be held at Richmond Hill on August 10th.

The Lighthouse/Lightship weekend shares the date with the RD Contest, 16th and 17th August.

The Veterans Group which transferred its meetings to VK2WI has found the numbers attending were reducing. It was decided to stop the gatherings during winter and review the position in the spring.

Illawarra ARS put its D-STAR system on air from the Maddens Plains site on the first weekend of May. On 2 metres it is VK2RDS C on 146.7625 with - 600 kHz offset. On 70 cm, VK2RDS B on 439.750 - 5 MHz offset and on 23 cm, VK2RDS A on 1273.900 + 20 MHz offset. 23 cm data was still awaiting a frequency.

The existing services provided by IARS from the Maddens Plains installation remain operational. Further details on the web sites iars.org.au or dstar.org.au

ARNSW (which is the trading arm of the company WIA NSW Division) held its AGM in April with an attendance of 31. The business was dealt with quickly – the attendees appeared interested in the light lunch provided. There were two motions presented. The first was to introduce membership periods of either 2 or 5 years and the second was that, as the WIA commenced in VK2 in 1910, celebrations should be observed locally as well as nationally. The minutes of the meeting have been prepared and are ready for distribution to the ARNSW membership.

This year there were only seven nominations received for the nine committee positions. Those standing from last year's committee are Michael Corbin VK2YC, Brian Keegan VK2TOX, Brian Kelly VK2WBK, Beth Langley VK2AO, Norm Partridge VK2TOP and Terry Ryeland VK2UX. Joining this year is Mathew Magee VK2YAP. Not standing from the old committee were Erik Houseman VK2MAN, Noel May VK2YXM and Barry White VK2AAB. These notes were compiled before the first full committee meeting and a caretaker role was being provided by Norm VK2TOP as President and Brian VK2WBK on Secretary/Treasurer matters. The first committee meeting was scheduled for late May.

John Vetters VK2JJV has taken on the role of **VK2WI** news co-ordinator from Erik VK2MAN. Ideally, all news should come in via email – arnews@tpg.com.au – and be lodged by Friday afternoon.

There is a slow turn round on the snail mail - so only use this for notification well in advance. Limited urgent matters may be faxed 02 9651 1661 or the station telephone 02 9651 1489 after 9.30 am Sunday.

Submissions should be less than a page in Arial size 14 or just plain text, written in the third person. The office telephone 02 9651 1490 goes to a message bank.

The ARNSW mail address is P. O. Box 6044, Dural Delivery Centre, NSW 2158. If news items come by mail - indicate on the envelope that it is a 'news item'. It helps with the sorting and distribution.

73 – Tim VK2ZTM.

40 years ago...

It was mid year 1968 when the word came through that the Department had approved the operation of 'repeaters' for the two metre band. There were a few unauthorized 'tests' going on, notably 'Fred' at Orange. In the mid 1960's there had been a major revamp of the commercial world when channel spacing halved from 60 to 30 kHz. (It had started at 240 kHz spacing). This placed a lot of surplus equipment on the 'market'. Prior to this time, most amateur operation had been with crystal locked transmitters and tuneable receivers, usually in the AM mode. Everyone had 'their' frequency and new arrivals were discouraged from squatting on someone's 'spot'.

The majority of the surplus equipment was in the FM mode, although there were a few AM sets like the Pye Reporter, which could be converted from low band to 6 metres. Most FM equipment headed for 2 metres by either of two methods: Obtaining low band (70 – 85 MHz) and converting up to two metres, often by physically moving components around, with quite a lot of work involved; or the major method was to bring high band (170 MHz) down to two metres. With no band plans in place FM migrated to the empty space above the AM operation which was in the first megahertz of the band. They settled on the centre of the band, 146 MHz. Soon some wanted more channels and the 'slide rules' must have slipped as channels 146 kHz, above and

below 146 MHz were established. These were simplex and became known as A, B and C.

A = 145.854; B = 146.000 and C = 146.146 MHz. Some operators in Sydney tried to find the channels and created 146.100 MHz which they found very lonely as they thought it was 146.000.

Very quickly there were plans to develop a national channel plan for the country. This fell on the skills of Chris VK2ZDD who had a meeting arranged at Wodonga, Victoria, in September 1968. All States were represented by attendance or proxy.

The equipment of the day, almost exclusively ex commercial, could only move a short distance in frequency before performance dropped off. Since operation was already taking place round 146, this was taken as the reference. It was found that if one stagger tuned the user equipment so that the receiver covered 145.600 to 146.146 MHz and the transmitter from 145.854 to 146.400 MHz, one achieved simplex and repeater operation. The repeater offset would be 500 kHz.

Many available units were single channel, a few three channel and the rare one, six channels. The meeting adopted the existing three simplex channels and introduced four repeater channels, thought to be enough for everyone. A compromise was reached to introduce a simplex (B) and only two repeater channels, 1 and 4, to limit the cost of crystals and channel capacity in equipment.

Channel 1 was 146.100 in and 145.600 out; 4 was 146.400 in and 145.900 MHz out. The outcome of the meeting became national policy, adopted by the WIA.

All attendees returned to their home states and filed repeater applications, a slow process of months or even years. As systems developed, it was found that site separation was insufficient; commercial users operated within their service confines with little effect on a reused channel elsewhere, but the Amateur was a DXer and wanted to work the world. System clashes were frequent and pressure mounted to expand channel availability. Another meeting of the Waverley Amateur Radio Society occurred in July 1972 in Albury. That story another time.

To be continued.

Tim VK2ZTM.

Waverley Amateur Radio Society Auction

POSTPONEMENT

The club's 2008 auction has been postponed until Saturday July 12th, due to unforeseen circumstances. All other details remain unaltered.

The venue is the clubhouse in Vickery Avenue, Rose Bay, Sydney. Gates open 8:30 and the sale starts at 10:30. Goods consist of useful ham radio, computer and electronic gear and it is open to all wishing to buy or sell. No catalogue is produced, but details of some of the items to be sold will be posted on the web site before the sale. Full details are available on the club's web site at www.vk2bv.org or by phone from Simon VK2UA on 02 9328 7141.

VK3

Amateur Radio Victoria News

Website: www.amateurradio.com.au
Email: arv@amateurradio.com.au
Jim Linton VK3PC

ATV returns

After ten years absence and with assistance from Amateur Radio Victoria, the Amateur TV repeater VK3RBO is back on air and attracting very good reception reports.

It has an input frequency of 1250 MHz FM and an output of 2415 MHz AM. The arrival of the repeater has resulted in old Austar MDS pay TV service antennas being used.

One local radio amateur literally picked up a couple of these discards that had been abandoned after the withdrawal of the microwave delivered subscription television service.

Located at Specimen Hill, the VK3RBO transmissions are delivering good signal strength over a wide area and definitely stimulated interest in this mode of operation.

Foundation class

The next weekend training and assessment sessions for the Foundation Licence will be 19/20 July and 23/24 August. Enrolments close soon. For inquiries or to enrol contact Barry Robinson VK3JBR 0419 808 323 or arv@amateurradio.com.au

Mentor Hall of Fame

An important aspect of amateur radio is the role that experienced and knowledgeable individuals can play in encouraging new licensees or less experienced radio amateurs.

What we are talking about is the Mentor (or Elmer) who has exemplified that tradition in our hobby, and from time to time we give recognition to worthy individuals.

They are individuals who have done much more than just teach amateur radio licence classes, although that activity is very honourable.

The latest inductee into the Mentor Hall of Fame is Ash Clark VK3SSB. Observed at the VI3JAM station and associated activities at the Australian Jamboree in January 2007, he made a positive impression in relation to his contributions at the event.

Displaying a maturity beyond his years

News from...

he was looked up to by those only a few years his junior.

Ash VK3SSB is regularly involved in scouting and JOTA taking every opportunity to promote amateur radio within the scouting movement. He also enjoys contests, field days, space communications, SSTV and building his own antennas.

After considering a detailed nomination from four radio amateurs in Western Victoria plus other supporting evidence, there was no hesitation in announcing at the Annual General Meeting, that Ash Clark VK3SSB is the latest inductee into the Mentor Hall of Fame.

Hamfest stand

It was great to meet with members and others at the Moorabbin District Radio Club Hamfest, one of the major events held in Melbourne.

Our Secretary, Ross Pittard VK3FCE, has created a portable display showing some of the activities of Amateur Radio Victoria in the form of photographs. This has been effectively used at other events and went on display at our Annual General Meeting on 21 May.

In order to meet this month's deadline, a report on the AGM will appear in this column in July.

EMDRC member spotted in suit while storm destroys shack ... and other EMDRC news

Joe VK3FJBC

While most amateurs like to read technical articles in AR, it is best left to those technically qualified to do so.

Instead here is a peek at the "behind the scenes" yarns at the Eastern & Mountain Districts Radio Club which deserves a mention. ***Jim VK3AMN is seen here wearing a suit.***

The reason why this is worth printing is because this is a bit like Hayley's Comet. We may never see this happen again. It might be worth saying at this stage that the headline is not entirely true – the suit was not actually being worn when the storm destroyed the shack but both these events are significant enough to make a juicy headline! Thankfully the radio gear was spared and at the time of going to press, Jim advises that the insurance assessor had been out to visit and that all would be well.

In other new items from the EMDRC, club members are busying themselves with many projects to keep warm during the winter months. Notable among these are two types of portable telescopic masts which are to be constructed and sold to members and non-members, a diplexer project proposed by Ray VK3RD, a beginners soldering night being organized and supervised by solder-maestro Andrew VK3BFA, a "return" visit by the members of FAMPARC (Frankston & Mornington Peninsula Amateur Radio Club) and finally, a CW training Course by Jack VK3WWW. Details of all of these are on the club website. Also coming up on EMDRC's social calendar is the (rumoured) attendance of several OMs

Jim VK3AMN attempting a quick getaway

Jim's shack receiving VK3BIGTREE loud and clear

at the ALARA luncheon to be held on 31 May at the Royal Victorian Aero Club at Melbourne's Moorabbin Airport.

By the time this is published, it will be time for the EMDRC AGM on 6 June, with all office bearer positions up for grabs and many items of discussion, this promises to be a busy and eventful night for the club's member base.

And then there is the other upcoming event which promises to be a really big one: the upcoming talk on the Australian Synchrotron at the July 4 club meeting. Michael Roberts, Senior Education Officer at Monash University Science Centre, promises to reveal more about this device. If things go as planned, it promises to be a "standing room only" event.

The Synchrotron which is about the size of a football field produces high intensity light beams across multiple wavelengths. Synchrotron light has unique features that make experimental results far superior in accuracy and clarity to comparable conventional lab equipment. For example, synchrotron x-rays are millions of times brighter (more intense) than the x-rays obtained from conventional x-ray machines found in labs and hospitals. More information on this fascinating device can be found at its official website www.synchrotron.vic.gov.au Hope to see you at the July Coffee shop meeting.

Gippsland Gate Radio & Electronics Club

The Gippsland Gate Radio & Electronics Club members would like to announce that on **July 19th**, they will be conducting their **Hamfest Sale** at the **Cranbourne Community Hall** on the corner of Clarendon and High Streets, Cranbourne. High Street is part of the South Gippsland Highway. Melway 133 K4.

Forty tables of goods will be presented at this large venue, but stall holders should book early as demand is always high. Reservations for stall holders may be made by contacting **Dianne Jackson VK3JDI on (03) 5625 2545 or hamfest@ggrec.org.au.**

Tables will be available for $20 each. Doors open at 8:30 am for stall holders and at 10:00 am for buyers. Your admittance fee of $6 as a buyer will go towards the continuing upgrading of facilities at our Club Shack and meeting room in Cranbourne. Take away food, plus free tea and coffee will be available. The entry fee includes a ticket in the Door Prize which will be drawn around 1:00 pm for all who register upon entry. Great prizes to be won as usual. Additional tickets can be purchased on the day.

Eastern Zone Amateur Radio Club

GippsTech2008 Update

Chris VK3CJK
Secretary EZARC

The organising team at the Eastern Zone Amateur Radio Club (Inc) is gearing up for GippsTech2008.

This year the event will be held on Saturday July 5 and Sunday July 6. This event has a well-recognised reputation as the premier technical conference in VK considering techniques applicable in the VHF, UHF and microwave bands, especially for weak-signal contacts.

In addition to the Conference, a Partner's Tour will be conducted, together with an informal social gathering for dinner on Friday and a Conference Dinner on Saturday.

Copies of the Conference Proceedings from 2007 will be available for sale during this year's event. Previous years' Proceedings are also available – see the web site for details.

Program

A number of prominent amateurs have already committed themselves to speak. Topics confirmed to date include:

- DSP with the Atmel AVR processors
- Cavity backed dish feeds for 23, 13 & 9 cm
- A versatile PLL Oscillator for microwave applications
- Locking our rigs to GPS references
- Crystal IF filters and the practical issues involved with their use
- A high performance 2 m downconverter
- Minimising EMI from a portable refrigerator
- Non-line-of-Sight Optical Propagation
- Sun Noise and Measurements

Any other amateur (& others with material to contribute) are invited to submit titles and outlines for topics to be presented at GippsTech2008 as soon as possible. Presentation slots can be brief (5 -10 minutes) through to one hour. We use a lecture theatre for the formal (& semi-formal) presentations. Potential presenters are welcome to contact the Chair of the Organising Committee direct (vk3kai@wia.org.au) for further information or to suggest a topic.

Many amateurs bring equipment to display to others, particularly home-brewed projects. A limited number of individuals usually also have items of interest for sale, particularly Alan VK3XPD and Mark VK5AVQ, well known for the goodies that they bring. No, this event is NOT another hamfest, but some trading does occur. Displays and the trading area are open during coffee/tea breaks and in the later portion of the lunch break.

Further information

The conference is held in Churchill about 170 km east of Melbourne, just south of Morwell.

Further details, including registration information, can be found at the Eastern Zone Amateur Radio Club web site at:
http://www.vk3bez.org/

News from...

The Geelong Amateur Radio Club – The GARC

Tony VK3JGC

The AGM

The 59th AGM was held on April 4 at the club house in Storrer Road, Geelong.

The committee members as elected for 2008 were:

Ian VK3VIN was elected as President for his second year

Peter VK3APJ was elected as Secretary replacing Dallas VK3DJ

Kevin VK3FKEV retained his role as Treasurer

Tony VK3JGC, Dallas VK3DJ and David VK3VLH were also elected to the 2008 committee.

The club president's statement for 2008 was "for many years, the GARC has held its place as a club that aims to achieve and be recognised for its high level of technical expertise and that it will continue to maintain technical standards as its primary goal. During the year several members will be assisted to upgrade their licences to Standard and Advanced levels.

However, in order to promote the great hobby of Amateur Radio to a broader cross section of the community, the club will continue to work with the Geelong Council and affiliated bodies with presentations and demonstrations. Projects already identified are:

- Participation in the Museums On Air on the weekend of the 14th of June with a station set up at the Geelong Regional Museum.
- An open day at the clubhouse during Seniors Festival week in October.
- Some planned interaction with schools in the Geelong and Bellarine Peninsula.
- Continuance of presentations of Amateur Radio to the PROBUS groups in Ocean Grove and surrounding areas."

VK3ATL

Listen for activities from our VK3ATL club station and its companion web site for a planned program of events throughout the year.

Repeaters and Beacons maintained by the GARC

A program of further improvements to our VHF and UHF VK3RGL repeaters is planned along with the re-activation of VK3RGC on the Bellarine Peninsula

The 60th Anniversary of the foundation of the GARC

Planning for this event is being undertaken by Lee VK3PK, who has selected the venue for the celebration dinner for members and their partners, and a guest speaker for the occasion. Progress and arrangements can be found on the VK3ATL web site.

Construction weekend at Dereel

On a lighter note: over the long weekend of the 25th to 27th of April, some 13 members of the GARC were on site at the Dereel shack of VK3DJ to start work on long planned extensions to the existing building.

Dereel construction. Phase 1 of the alfresco area in progress

Ken VK3NW taking a break at Dereel from drilling the hard surrounds in preparation for the Nally tower, or is he in QSO with Z3ZZZ

VK5

Adelaide Hills Amateur Radio Society

Christine Taylor VK5CTY

Our 25th birthday

The May meeting was a special one when AHARS celebrated 25 years of existence. The club had its first meeting in May 1983 when Marshall Emm VK5FN, now N1FN, was elected President. Marshall now lives in the US but sent a long message of greetings and congratulations to the club.

The main topic for the evening was an illustrated talk by Graham VK5ZFZ about early circuits which brought back many memories to the 'oldies' and astonished the 'newbies'. There were two working radios of the 1980s, one an amateur band unit and the other a broadcast receiver brought back from the US in 1985 by the father of Jim VK5JST.

A broadcast receiver from the US.

Copies of AR from that time were on display, along with an essential piece of equipment for every amateur in those days: a Bendix Frequency Meter.

John VK5EMI

The birthday cake.

gave a PowerPoint demonstration of the history of AHARS, from the material gathered by Lloyd VK5BR, as Historian. Then a cake was cut by a group of early members.

A very satisfactory and enjoyable evening

On the weekend after the birthday celebration, AHARS held an examination at the Aviation Museum. Twelve attendees achieved eight Foundation Licence passes and one Standard Licence pass. Thanks to Sasi VK5SN and all his helpers.

Preparations for the next Buy and Sell are under way. This year we will be at a different location, it will be held on a Sunday, and in a much larger hall in Rosa Street, Goodwood. The whole event is planned to be bigger and better than before. Keep the date Sunday 9th November in your diary.

Cutting the cake are: (l to r) Hans VK5YX, Brian VK5NOS, Ron VK5RV, Meg VK5YG, David VK5OV, and Gordon VK5KGS

Some of the youngsters at the Foundation training event.

An aircraft receiver, used as a communications receiver.

News from...

VK7

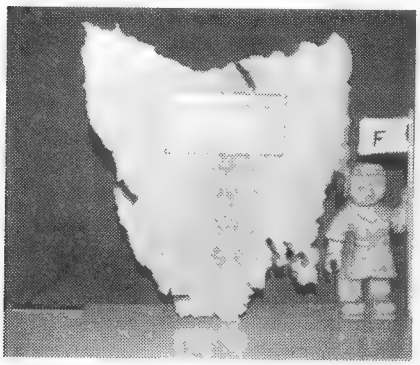
Justin Giles-Clark VK7TW
Email: vk7tw@wia.org.au Regional Web Site: reast.asn.au

Athol Johnson Memorial Contest Results

Ben VK7BEN, contest manager, is pleased to announce the winners of the Athol Johnson Memorial Contest, and the John Grace Perpetual Trophy.

Overall winner of the Contest was Steve VK7XOR with 641 points, and the winner of the inaugural John Grace Perpetual Trophy was Tony VK7FACC. Congratulations Guys.

John Grace was one of the pioneer builders and operators of VHF and UHF equipment in Tasmania during the late 50's and his trophy is awarded to the Foundation licensee who gains the most points in the Athol Johnson contest.



John Grace Perpetual Trophy with an intrepid F-Call flying the flag!

Northern Tasmania Amateur Radio Club

On April 9 Ken Gourlay, around the world solo yachtsman, was guest speaker at the NTARC dinner meeting. The group heard of Ken's inspirational tales of resourcefulness, persistence, courage and determination. Thanks to Peter VK7KPB for his generous donation for assisting with the upkeep of the VK7RAA repeater.

We welcome our newest Learning Facilitator Idris VK7ZIR, who recently qualified, congratulations Idris. We also congratulate and welcome Don Prewer who is now VK7FAAM.

N. W. Tasmanian Amateur Radio Interest Group

On 12 April at a general meeting, NWTARIG discussed the on-going maintenance issues at the Mount Duncan repeater site. Wayne VK7FWAY and Eric VK7FEJE have already over-flown Mt. Duncan and taken photos to assist the planning to get a maintenance crew flown in to replace faulty batteries. Thanks to all who have offered assistance.

Using the 2 m repeater VK7RMD for Slow Scan and sharing with voice traffic was voted for overwhelmingly. The SlowScanTV net gateway of VK7AX is now the Mountain Duncan Repeater and great SSTV pictures were exchanged.

Nightly broadcasts can be heard on the 2 m repeater VK7RMD from 7:30 pm Monday to Friday and also in the Launceston area via EchoLink through VK7HBR on 145.425 MHz and also on 145.350 MHz. in Ulverstone on the Central Coast. For broadcast details see http://203.24.120.3/spectrum/

Radio and Electronics Association of Southern Tasmania

Congratulations to Andrew Welch who passed his Advanced assessment and is now VK7WWW and according to OM Brian VK7BW, is hereafter known as "Triple Scotch"!

REAST is trialling an alternative method of training for the Foundation amateur radio licence and is part of the Saturday afternoon "Winter Project" sessions. A checklist has been developed that follows the syllabus that a prospective F-Call can complete prior to assessment, with information sessions provided by knowledgeable REAST members on a wide range of AR topics. The prospective F-Call must still become familiar with the FL Manual. However, if the checklist is completed then both the practical and theory assessment should be a breeze.

Remember, Foundation Licence Manuals and CDs are available for purchase at McCann's Model World in Elizabeth St. Hobart at $20.

The ATV group, including our most recent F-Calls: Tony VK7FTCL, Frank VK7FINF and Sam VK7FSTL have put together some very professional promotional AR introductions and "See the Voice" interviews that really promote the hobby through ATV.

These presentations are on YouTube : http://reast.asn.au/events.php#ATVnights

A year after the BS7H Scarborough Reef DXpedition, REAST screened the professional video produced by DXpeditioner James Brooks 9V1YC. This was a fascinating insight into this rare and controversial DXpedition.

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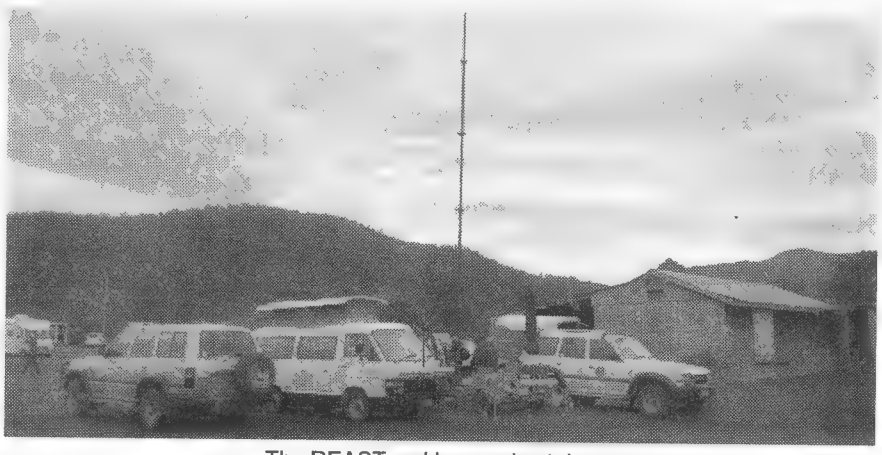

The REAST making ready at dawn

Christine Taylor VK5CTY

The Annual General Meeting

The AGM was held on air on May 5th. There were 22 call-ins. This year conditions were good for most stations: Marilyn VK3DMS, as President, could hear everyone, which has not always been the case. There are a few changes to the committee this year but there has been no problem getting people eager to participate. ALARA is alive and well!

ALARA Office Bearers for 2008/09

President: Marilyn Syme VK3DMS
Senior Vice President:
Tina Clogg VK5TMC
Junior Vice President:
Shirley Tregellas VK5JSH
Treasurer:
Margaret Schwerin VK4AOE
Souvenir Custodian:
Margaret Schwerin VK4AOE
Secretary: Susan Brain VK7LUV
Editor: Dot Bishop VK2DB
Librarian/Historian:
Sue Southcott VK5AYL
Minute Secretary:
Jenny Wardrop VK5ANW
Contest Manager:
Marilyn Syme VK3DMS
Publicity Officer:
Christine Taylor VK5CTY
Public Officer:
Robyn Gladwin VK3WX
Sponsorship Secretary:
Maria McLeod VK5BMT
Awards Manager:
Kathy Gluyas VK3XBA

State Representatives

VK1/2: Dot Bishop VK2DB
VK3: Jean Fisher VK3FJYL
VK4: Pamela Benner VK4PTO
VK5/8: Jean Kopp VK5TSX
VK6: Bev Hebiton VK6DE
VK7: Rosanne Webb VK7NAW

Marilyn thanked the committee for their help in making the organisation run so smoothly. She wished well those leaving and the new-comers.

After the formal meeting was closed there was time for the usual exchange of news.

The forthcoming ALARAmeet in Tasmania

Plans are progressing well for September, at the time we expect about 80 people which is a manageable number. Venues for excursions and meals have been booked and the caravan parks and motels are asking for deposits.

A number of caravans and car loads will be crossing Bass Strait on the night of 10th September but others will make their way to Ulverstone separately.

If you are hoping to go to the MEET but have not yet informed Susan VK7LUV, PLEASE do so ASAP. Otherwise you will be making it very difficult to make arrangements.

Hope to see you there.

The International YL Meet In South Africa

This meet starts in Johannesburg on October 3rd and runs till October 18th. If you have not yet decided to go there is not much time left.

The organisers are Janet ZS5JAN and Vee ZS6ZEN.

If you do not know how to contact these YLs go to Yahoo Groups and then to YL Meets and leave a message.

There are a number of tour options, such as the Apartheid Museum, a visit to Soweto or to the Cullinan Diamond Mine from Johannesburg. There is a visit to the Pilanesburg Game Reserve with both balloon flights and drives through the reserve, from Lesedi Cultural Village where you would be overnighting.

From Durban, you can watch the sunset before your evening meal and next day visit a Marine Theme Park. Another tour will take you to a Zulu Homestead where traditional crafts and dancing will be on show.

Once in Capetown, you could go to the top of Table Mountain or see it from a helicopter or just tour the city and 'shop till you drop'.

With several dinners, and opportunity to meet local amateurs as you travel through the fascinating country, you finish up with a flight back to Johannesburg where it is time to say farewell to everyone and time to enjoy all the photographs and memories you have gathered in a packed fourteen days.

International YL MEETS are special.

A special event for some children recently

Calling Phoenix

Last Friday, the students in 4Q were treated to a demonstration of a great way to communicate with people around the World. Alicia Simpson's parents bought in two special portable radio transmitters to establish an Internet link with people in Phoenix Arizona USA. The Amateur Radio Group the children talked to in Phoenix included Jane (90), Ken (70+), Carl (70+), Walt (85) and Joe (70). When we spoke to them in the classroom it was 9 am Friday our time and 3 pm Thursday their time.

It was interesting to listen to the very special call signs and procedures that need to be followed to complete the links. Alicia, one of the youngest radio operators in NSW, used her call sign VK2FALI to begin the call. Some other students were able to speak with members of the Phoenix group. They shared information about similarities and differences between the two locations. Alicia studied for her Foundation Amateur Radio Licence in Baulkham Hills during a full weekend course, with instructors from the Hornsby and District Amateur Radio club (HADARC: http://hadarc.org.au/)

We thank HADARC for their donation to the school's library of a book titled "Your Entry into Amateur Radio". This is an excellent resource for anybody thinking about getting their Foundation Amateur Radio Licence.

We will chat again in the near future. The students in 4Q will undertake some further research about Phoenix and surrounding districts, and some additional information will be given to our Phoenix friends about our environment.

Item sent by Dot VK2DB member of ALARA and of HADARC.

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AMSAT

Bill Magnusson VK3JT

The AMSAT group in Australia

There have been some important changes in the structure of the group over the past couple of months.

Following the resignation of Graham Ratcliff from his long-held position of co-ordinator, we have a new executive in the persons of Paul Paradigm VK2TXT and Judy Williams VK2TJU.

Paul and Judy will fill the positions of National Co-ordinator and Secretary. There will be a complete merging of the Ozsat group and AMSAT-Australia into the new group to be known as AMSAT-Australia. Details of these events and a "vision for the future" of AMSAT-Australia will be found on the group web site at www.amsat-vk.org.

If you visit the site you will find details of how to join the new group if you wish to do so and details of how to get on the new mailing list for information. It is requested that all further email communications with AMSAT-Australia be forwarded to the following email address secretary@amsat-vk.org or if you need to email Paul directly, please send your emails to coordinator@amsat-vk.org.

While we are on the subject of changes, I had already discussed with Graham that after 20 years of writing the AMSAT column and other items for AR magazine, I had no desire to continue beyond the end of this current year. I am very pleased to say that Paul has agreed to take on that role too.

I think there are many benefits in having the co-ordinator also do the AR column and we are fortunate in that Paul's writing, editing and publishing experience will fit him perfectly for the task. I have agreed to carry on for the next couple of months until he feels comfortable with his new duties, at which time he will take over.

To Graham:

What can I say? Twenty five years of dedicated service to any organisation is remarkable. Graham has been a stalwart of not just the Australian but the world-wide AMSAT communities since their formation. It has been my privilege to work with him over much of this period. Graham's stewardship of the AMSAT-Australia co-ordinator's role officially began in 1983 but he was involved at various levels well before then. He compiled, produced and distributed the AMSAT-VK Newsletters which ran monthly for 180 issues and played a vital role in the pre-internet, pre-web, pre-packet, even pre-PC days. Communication with and among the VK group amounted to the posted-out newsletters and the weekly AMSAT HF nets which Graham and others hosted with a broadcast and round-robin callback. He organised the purchase and distribution of the wonderful little Sharp Pocket Computers to members after Dr Karl Meinzer DJ4ZC had written a modified tracking algorithm which could be compressed into this little marvel's six kilobytes of memory! To myself and many others, these very basic devices were our first introduction to the mysteries of computing. In the heady days of AOs-10/13/40, Graham was a principal southern hemisphere control station for these birds. A mere 'thank-you' seems so inadequate but thank you Graham for your immense contribution. Like many others, I wish you a happy retirement and it will be great to know that you will at last have enough time to operate on the satellites. I look forward very much to working you on P3E.

On-going arrangements for the nets

The EchoLink net on the AMSAT Conference Server has been moved from the afternoon of the 2nd Sunday to the 2nd Tuesday of each month and to an evening time slot. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. It is hoped the new format will facilitate other aspects like making 'skeds' and for a general 'off-bird' chat. The 2nd Tuesday night net will be held at 8.30 pm eastern time, i.e. 0930 Z or 1030 Z depending on daylight savings. Please refer to last month's column for details of repeater links and watch the new AMSAT-VK web site for any new developments

A Last Goodbye to UO-11?

Clive G3CWV has been supplying the amateur radio satellite community with regular, and eagerly awaited by telemetry buffs, OSCAR-11 reports for 12 years. I have quoted from them in this column many times in the past. In April, Clive produced his last OSCAR-11 report. This is a significant event, so I will include some of it here. I have edited it a little for the sake of brevity.

Final monthly OSCAR-11 report - April 2008

Clive G3CWV

In the years ahead, it is possible that you may hear OSCAR-11, by accident, when tuning round the frequency. If you are able to record the satellite on audio tape or as a WAV file (not MP3), please do so, as it is unlikely that it will be heard on the next pass! If you need to hear what the satellite sounds like, please visit my website http://www.users.zetnet.co.uk/clivew/ The satellite transmits on 145.826 MHz. Set your receiver to NBFM. This is the 144th monthly report for OSCAR-11. Unless there is an unexpected change of status (such as occurred with OSCAR-7), I am expecting this to be my last report. Transmissions were expected to resume on 24 March, after the beacon switched-off on 14 March. However, permanent eclipses started a few days beforehand, which probably caused the transmission period to be terminated prematurely. It is now unlikely that the satellite will support any sustained period of operation, and will only transmit for a short time, possibly less than a single orbit, every 21 days.

I am indebted to all those who sent reception reports during the last 12 years. Initially there was much interest in hearing the mode-S beacon, which was very weak. Recently, interest has changed to hearing when the two metre

beacon switched on/off. Special thanks must go to Jeff KB2M who recorded telemetry during my holidays, and Peter ZL3TC, who has monitored the beacon daily, during recent months. The satellite is now subject to eclipses during every orbit. Long term predictions indicate that eclipses will occur until 2019, when there will be some eclipse free periods until 2023. However these very long term predictions should be regarded with caution, as large tracking errors can accumulate over long periods of time.

When telemetry was last received, it showed that one of the solar arrays had failed, and there was a large unexplained current drain on the main 14 volt bus. After 24 years in orbit the battery has undergone over 100,000 partial charge/ discharge cycles, and observations suggest that it cannot power the satellite during eclipses lasting more than about ten minutes, or sometimes even during periods of poor solar attitude. The current status of the satellite is that all the analogue telemetry channels, 0 to 59 are zero, i.e. they have failed. The status channels 60 to 67 are still working. The real time clock is showing a large accumulated error, although over short periods timekeeping is accurate to a few seconds per month. When last heard the clock was 83.0958 days slow.

OSCAR-11 was the second satellite from the University of Surrey. It was designed, built and launched, within a time scale of six months, by a team headed by Martin Sweeting G3YJO. Amateur radio groups working at various locations in the world also contributed to the project. It used commercially available 'off the shelf' components. Following the success of these satellites, in 1985 Surrey Satellite Technology Ltd. was formed, as a commercial venture. This grew into a major company which has produced over 27 small satellite projects for a global market. The University of Surrey has recently agreed to sell its major shareholding to EADS-Astrium. This agreement is now awaiting regulatory approval. The joint company will have the experience of manufacturing large and small satellites, for geo-synchronous and low earth orbits.

In recognition of his work, Martin G3YJO was appointed Professor at the University of Surrey. He received an OBE in the 1995 Queen's Birthday honours list, and in 2002 a knighthood in the New Year's honours list.

Listeners to OSCAR-11 may be interested in visiting my website, which is being updated to reflect the current status of the satellite. If you need to know what OSCAR-11 should sound like, there is a short audio clip for you to hear. The last telemetry received from the satellite is available for download. The website contains an archive of news & telemetry data which has now been updated. It also contains details about using a soundcard or hardware demodulators for data capture. There is software for capturing data, and decoding ASCII telemetry. The URL is www.users.zetnet.co.uk/clivew/

The full text of this, Clive's final OSCAR-11 report can be viewed at this site. As an old telemetry buff from way back, I want to thank Clive for his dedication to this effort over so many years. Thanks Clive.

Flurry of activity follows the launch of Delphi et al.

As this column was being prepared, Wouter Jan Ubbels PE4WJ of the Delfi-C3 Team announced that the PSLV-C9 launch from India carrying the CUTE-1.7, SEEDS, DELFI-C3, COMPASS-1, AAUSAT-II, and CANX-2 Cubesats into orbit has been successful.

The payload is still to be separated and individually identified as is the case in multiple launches. In a few weeks after shakedown we will know which object aligns with which set of Keplerian elements. I will include a list of frequencies and operating modes in next month's satellite column.

The Delfi-C3 team has released RASCAL, the telemetry decoding software for their satellite mission and it has met with the approval of those telemetry buffs who have tried it. The Delphi website has download details. By next month's copy deadline a lot more should be known about this latest batch of satellites and how we as radio amateurs can help the design teams. In so doing, we will be helping ourselves, and having a lot of fun along the way.

ar

Over to you

Compatibility caution

I have just taken delivery of some adaptors advertised for sale through Ebay from a Hong Kong supplier.

They were advertised as being PL259/ SO239 ground plane adaptors.

Problem is that the threads are not the standard UNEF 5/8" x 24 threads per inch, they are 16 x 1mm.

They are not compatible with our connectors.

I feel a warning should be placed in the next issue of AR advising any members of the WIA that there is an issue with compatibility of threads, even though they are advertised as being the "real McCoy".

John McLean VK2KCE

2009 Callbook preparation

WANTED
GOOD PHOTO FOR CALLBOOK COVER

Email to callbook@wia.org.au
Or mail to WIA
PO Box 2175
Caulfield Junction
VIC 3161

CLUBS
Make sure that the WA National Office has your correct details.
The Callbook will publish this information. Do it by 1/7/08 please, or earlier

Check your ACMA listing detail
The Callbook prints what comes from ACMA. Contact ACMA with your changes

Spotlight on SWLing

Robin Harwood VK7RH

Winter is very much here and there seems to be plenty of time to listen around, particularly in daylight hours. One thing I have noticed is the major broadcasting allocations seem less congested compared to previous winters.

More broadcasters are rapidly dumping shortwave as a platform, particularly in the west. Contrast this with the decision of the Chinese to dramatically escalate the use of shortwave for relays of both their domestic and external service programming. They also have been jamming many foreign external service programming broadcasting in Chinese and other languages spoken within the PRC. Ten years ago I did not hear any Chinese-based broadcasters in daylight hours but today they can be easily heard 24/7. They have also constructed major relay sites in far western China at Kashi, at Cernik in Albania as well as entering into agreements with other broadcasters to use their sites in Canada, Cuba and Brazil.

I am expecting that broadcasting from Beijing will peak during the Olympics. They want to maximise opportunities that will arise from the Beijing Games. However things did not get off with a good start even before they have commenced with violent protests throughout the World over the situation with Tibet. Jamming certainly escalated especially against both western and clandestine stations in Tibetan and Mandarin.

I have also noted that there was a dramatic increase in shortwave broadcasts to the African nation of Zimbabwe, following the hotly contested election. There is a well-known clandestine station operating out of London, utilising senders in Africa and Europe. Ever since they commenced, they have been heavily jammed from within Zimbabwe and some media outlets say that the Chinese have assisted in this jamming. Another program emanating from Washington DC from the VOA has also targeted Zimbabwe and has been using senders in nearby Botswana as well as Sao Tome off the West African coast. This also is a jamming target.

With the expansion of shortwave transmissions from China, it is very much a surprise to learn that the VOA will cease Cantonese broadcasts from the end of the current broadcasting period. Cantonese is a widely spoken Chinese dialect throughout SE Asia. I believe that there are further reductions in other VOA sections in favour of an internet-based delivery system.

I also have seen reports that Radio Taiwan International, in Taipei, will cease relays via Family Radio in Okeechobee Florida at the end of this month. Taiwan is regarded as a "renegade" province of China, ever since the Chiang-Kai-Shek Nationalist Government in Nanking fled to the island from the Chinese Communists in 1949. I do not know why this agreement has ended and it seems that Family Radio are the ones who have made this decision. The Oakland California religious broadcaster has been using Florida for their senders. Radio Taiwan International was formerly known as the Voice of Free China and made use of the Florida senders to reach both North America and Europe. In return, Family Radio made use of Taiwanese senders to reach mainland China. Lately Family Radio has commenced utilising senders in Europe and the CIS which are providing better signals than from Taiwan. RTI recently has been trying to determine if there is a sufficient audience base, by asking North American listeners to write in.

Well that is all for June. You can email me at vk7rh@wia.org.au.

73 de VK7RH

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The Gippsland Gate Radio & Electronics Club

Hamfest Sale

July 19th

Cranbourne Community Hall

Cnr of Clarendon and High Streets, Cranbourne.

High Street is part of the

South Gippsland Highway. Melway 133 K4.

Dianne Jackson VK3JDI on (03) 5625 2545 or hamfest@ggrec.org.au.

GippsTech2008

Saturday July 5 and Sunday July 6

GippsTech is the premier 2 day conference organised & run by the Eastern Zone Amateur Radio Club Inc for VHF, UHF & SHF enthusiasts in Australia.

including a

Partners' Tour

Any other amateur (& others with material to contribute) are invited to submit titles and outlines for topics to be presented at GippsTech2008 as soon as possible.

The conference is held in Churchill about 170 km east of Melbourne, just south of Morwell.

Further details, including registration information, can be found at the Eastern Zone Amateur Radio Club web site at:

http://www.vk3bez.org/

Phil Smeaton VK4BAA

Contest Calendar for June 2008 – August 2008

June	7	QRP Sprint	CW
	7/8	IARU Region 1 Field Day	CW
	14/15	ANARTS WW RTTY	Digital
	14	Asia / Pacific Sprint	SSB
	21/22	All Asia DX	CW
	28/29	King of Spain Contest	SSB
	28/29	Marconi Memorial Contest	CW
	28/29	ARRL Field Day	All
July	1	Canada Day Contest	CW/SSB
	6	**VK/trans-Tasman 160 metres Phone Contest**	**SSB**
	12/13	IARU HF Championship	CW
	14	**Jack Files Memorial Contest**	**CW/SSB**
	19/20	CQWW VHF Contest	All modes
	20	**VK/trans-Tasman 160 metres CW Contest**	**CW**
	26	Waitakere (NZART) Sprint	SSB
	26/27	RSGB IOTA Contest	CW/SSB
August	2	TARA Grid Dip	PSK/RTTY
	2	Waitakere (NZART) Sprint	CW
	2/3	10-10 Intl QSO Party	SSB
	9/10	Worked All Europe	CW
	16/17	**Remembrance Day Contest**	**CW/SSB/FM**
	16/17	Keymen's Club of Japan Contest	CW
	30/31	**ALARA Contest**	**CW/SSB**

Welcome to this month's Contest Column.

Beru Commonwealth Team Contest - Results

This year, teams from Australia, Canada, Great Britain, New Zealand and the Rest-of-the-World were joined by Team Africa. They made a very creditable start with a little help from an Indian team member (all above board!) but were unable to muster a full team.

Last year's winners New Zealand were hampered by the non-availability of the Quartz Hill super station and a failure of 10 m to deliver conditions enjoyed by other southern areas.

However, these factors do not detract from a superb performance by Team Australia, last year's runners-up, who amassed a marvellous adjusted score of 61,528 to take the title, just ahead of the Rest of the World on 59,791. In third place is Team Great Britain, with 51,830 points. The others are fairly evenly-balanced – Africa on 37,909, New Zealand on 35,023 and Canada on 34,270. It remains to be seen what happens in 2009, when the newly-calculated multiplier suggests another closely-fought competition.

The VK Team members were:

Team Australia: VK6VZ; VK2NU; VK4EMM; VK6BN; VK2BJ; VK6HD; VK6LW; VK4XY; VK2MB (G4OBK); VK4BUI.

Claimed Scores for CQ WPX SSB 2008

VK representation in world-wide contesting is going from strength to strength it seems. The following stations submitted a log for the contest, which is a healthy increase over the previous year's entries. The claimed scores do not seem to have suffered too much from the sun spot cycle however, as they seem similar to the last year or so. More traffic on the lower bands is evident however, with 10 m being often overlooked as the multipliers are not band specific in this contest. Ten metres can often open to unexpected parts of the globe at various times of the day however, so it is prudent to now visit the band every now and then as DX is sometimes lurking in the ether for a few minutes prior to disappearing beneath the white noise. Whilst not so much of an issue for CQ WPX, for CQWW it is advisable to have 10 m capabilities for those elusive openings if entering an 'all band' section.

The Northern Corridor Radio Group made a special trip to Faure Island for the contest and evidently had a great time on the bands, causing a pile-up or two. Many months of planning went into the trip but unfortunately, Neil Penfold VK6NE had a spot of bother with his health and could not make the trip with the rest of the team. Get well soon Neil!

Callsign	Operator	Claimed Score	Transmitter	Band	Power	Assisted	Overlay
VK6FAU	MULTI-OP	810378	ONE	ALL	HIGH	ASSISTED	TB-WIRES
VK4WIL	MULTI-OP	716616	TWO	ALL	HIGH	ASSISTED	DX
VK4VSP	MULTI-OP	15249	ONE	ALL	HIGH	ASSISTED	DX
VK4HAM	SINGLE-OP	359632	ONE	20M	LOW	NON-ASSISTED	ROOKIE
VK2CCC	SINGLE-OP	4	ONE	20M	QRP	NON-ASSISTED	DX
VK4BAA	SINGLE-OP	205428	ONE	40M	LOW	NON-ASSISTED	DX
VK2APG	SINGLE-OP	2810960	ONE	ALL	HIGH	NON-ASSISTED	TB-WIRES
VK7GN	SINGLE-OP	1271634	ONE	ALL	HIGH	NON-ASSISTED	DX
VK7WPX	SINGLE-OP	213634	ONE	ALL	HIGH	NON-ASSISTED	DX
VK4FRAJ	SINGLE-OP	145179	ONE	ALL	LOW	NON-ASSISTED	ROOKIE
VK3FM	SINGLE-OP	110554	ONE	ALL	HIGH	NON-ASSISTED	DX
VK4FJ	SINGLE-OP	82810	ONE	ALL	LOW	NON-ASSISTED	DX
VK2FHN	SINGLE-OP	54802	ONE	ALL	HIGH	NON-ASSISTED	DX
VK4AMC	SINGLE-OP	52056	ONE	ALL	LOW	NON-ASSISTED	TB-WIRES
VK2KDP	SINGLE-OP	42400	ONE	ALL	LOW	ASSISTED	DX
VK4ATH	SINGLE-OP	32239	ONE	ALL	QRP	NON-ASSISTED	DX
VK1MJ	SINGLE-OP	23871	ONE	ALL	HIGH	NON-ASSISTED	DX
VK3YXC	SINGLE-OP	21204	ONE	ALL	HIGH	NON-ASSISTED	DX
VK4VDX	SINGLE-OP	12672	ONE	ALL	LOW	NON-ASSISTED	DX
VK3TDX	SINGLE-OP	6435	ONE	ALL	LOW	NON-ASSISTED	DX
VK2GR	SINGLE-OP	2820	ONE	ALL	HIGH	NON-ASSISTED	TB-WIRES
VK4XES	SINGLE-OP	1960	ONE	ALL	LOW	NON-ASSISTED	TB-WIRES

Cut Numbers

So, what are 'cut numbers' and what use are they?

You have no doubt heard reports given on CW as 599 or even 5NN. The latter, uses cut numbers for each number 9, represented as an 'N'. Serial numbers also often become 'slimmer', with a 'T' in place of a zero, so 001 becomes TT1 for example, making the new representation have seven characters to send instead of the original fifteen.

'Cut numbers' use a reduced set of dots and dashes to represent the numbers from zero to nine, inclusive. The thinking behind this approach is that a reduced set of characters representing the numbers will lead to less time taken to work a station and therefore allow more stations to be worked during the contest time period. The sending of 'T' and 'N' as replacements for '0' and '9' are fairly commonplace, but things have now moved on a little to include other alternative replacements.

But the cut number approach (unfortunately there appears to be more than a single method used!) can also add to confusion for some unwary recipients, as 005 might become TTE. The two zeroes are swapped-out for two Ts and the five is exchanged for an E, so fifteen characters now become three.

But, could sending exchanges in this way affect your ability to attract new stations? It is important to recognise that even when you are just coming back to a call – or finishing the QSO, you are making transmissions that might be heard by someone tuning the band. As the person tunes in, they need to listen to what is going on – with the intention of determining if they should try to work you. The ability to lure stations in is a function of how potent your presence is on the band. This potency is essentially the product of how strong you are and how much transmitting you do. In saying "how strong", I am talking about the energy your transmitter is producing - which essentially is measured by looking at a wattmeter with a slow enough time constant to show average power while sending CW.

It is true to say that sending 'dahs' does take some extra time, but it also increases the amount of energy you are putting into the band over time (because the duty cycle of 'dahs' is higher than 'dits'). This higher duty cycle might help make your signal harder to miss when someone is tuning by. It is also important to recognise that there are some number of guys who really do not like hearing a report that is hard to understand and might "vote with their feet" not to bother calling you. Not everyone you work in the contest is in the contest looking to have the best score. A large percentage of contest QSOs are guys who are "just handing out some QSOs" and they really do not care that much if they work you or not.

Cut numbers should theoretically enable quicker QSOs and therefore more time available for QSOs. Unless the cut number system is universally utilised in the same manner however, it might become counter-productive and cause a number of stations to ignore you and tune away, or ask for repeats for information as the cut number sent is not received as a recognisable exchange.

With my home antenna system, I am unlikely to be in the position of having a huge pile-up to be worried about 'wasted' time due to taking cut numbers to their limits! I'll stick with just T and N for now.

Contest Result Search Engine

If you have been in the position of having submitted a number of logs for various contests and then forgotten about them, have a look at http://www.qrz.ru/contest/search.phtml? This nifty facility reminded me of a few contests where I had completely forgotten about submitting a log – not that I would have won or even got highly placed in the listings – but it was good to see that the log had been received!

Many congratulations to the following stations for a superb effor in the contests and for flying the flag for VK:

JIDX 2007 Phone Results

Call	Score
VK6DXI	47,847
VK4BUI	3,901
VK3AVV	2,204
VK4NEF	26,680
VK4ATH	12,240
VK7BEN	6
VK4FJ	1,265
VK6NU	504
VK1KLW	108

CQWW RTTY DX 2007 Results

Call	Score
VK4AN	907,204
VK7GN	113,760
VK2NU	96,159
VK3KE	15,106
VK3TDX	20,790
VK7CAV	5,198
VK4EJ	40,590
VK6DU	31114
VK7AAP/3	864

CW Speed & Contesting

I remember when I first became interested in CW contesting. I was overwhelmed by it. I stood in awe as I listened to the contesting gods in action. It was magic. It was indecipherable. I did not know the code, so I would have to learn it.

Once I became licensed I engaged in contesting immediately under the wing of an Elmer, Dave Lawley G4BUO. Most stations were sending at 25-30 wpm, which was a whole lot faster than I could reliably read. I made a complete mess of the first few QSOs/ contests. However, after a while, things did improve.

I had to adopt a different strategy to those already experienced. Running was not a good way to go, for two reasons: my signals were weak as my station was in its infancy (much the same as today actually!) so I could not hold a frequency but more importantly I did not have the skill to run a pile-up because I could not read the code reliably enough at speed.

The answer was to search and pounce (S&P) instead. This gave me the advantage that I had time to work out who a station was before I tried to give them a call. I could also work out what the exchange he would send would be - even if it included a serial number.

Using S&P only and without the ability to read the code reliably, I was never going to win a contest. I certainly aspired to winning but I realised I had a whole lot to learn before that would become a possibility.

The key to motivation is the setting of realistic objectives. Realising my limitations and understanding that winning was not an option forced me to focus on defining different objectives. When it is a struggle to read the code, a 24 hour contest is close to impossible as it is just too fatiguing. Instead, I would divide the contest up into 1 hour segments or, in the early days, even half hour. I would commit myself for a segment and go for it, aiming to work as many stations as I could. At the end of the segment I would retire away from the rig for a while. Later, I would return for another session. Who was I competing against? Myself!

In each subsequent session I would focus on improving my S&P rate. I did not just try to work stations that sent slowly and I would set out to work stations sending at all speeds. In the case of the faster ones, I would have to listen to three or four of their QSOs before I figured out their call and what my exchange was going to be.

Adopting the above technique ensured I always pushed myself. As a consequence, I found my CW receiving speed rapidly increased. So did my sending speed.

One of the great things about amateur radio contesting is that you can participate regardless of your level of expertise. However, if you decide to participate and expect to win whilst having limited expertise, you may be in for a shock! Use contests for your own purposes and be realistic about what you're trying to achieve. Your most important competitor is yourself. Aim to improve on what you did last time.

Contestants want to work you. They need contacts for points. Some will slow down for you and some won't. A good competitor will always try to make a valid contact and will QRS. Not all contestants are good operators! Do not let that put you off. Enter contests with a view to learning from them and raising your game.

Using readily available software such as MorseRunner can go at least some way towards getting some practice, but what no software can teach of course, is operating tactics – when to run, when to S&P – or indeed how to S&P, as its simulation is restricted to running - and when to change bands.

Have a go. You have nothing to lose. Contesting is great fun and your fun will increase with increasing skill. One final thought: Callers (regardless of experience) would be best placed not to call a station at a speed faster than they can copy.

If you have any contest related material for inclusion within the column, topics that you would like covered or even some experiences and pictures you would like to share, then please feel free to get in touch via vk4baa@wia.org.au. See you on the bands.

73 de VK4BAA Phil Smeaton.

"Hey, Old Timer..."

If you have been licensed for more than 25 years you are invited to join the

Radio Amateurs Old Timers Club Australia

or if you have been licensed for **less than 25 but more than ten years**, you are invited to become an **Associate Member** of the RAOTC.

In either case a **$5.00** joining fee plus **$8.00** for one year or **$15.00** for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to
RAOTC,
PO Box 107
Mentone VIC 3194
or call Derek VK3XY on **03 9563 6909** or Bill VK3BR on **03 9584 9512**,
or email to raotc@raotc.org.au
for an application form.

John Moyle Memorial National Field Day 2008 Results

Denis Johnstone VK4AIG/VK3ZUX

24 Hour Portable Operation – Multiple Operator

Call Sign	Operators	Mode	Band	Contacts	Score	Place / Award
VK3ER	Multi	Phone	All	837	11410	1*
VK2SRC	Multi	Phone	All	482	7944	2*
VK2MA	Multi	Phone	All	319	7520	3*
VK2HZ	Multi	Phone	All	409	3740	4*
VK4WIS	Multi	Phone	All	331	2388	5
VK2WG	Multi	Phone	All	441	2076	6
VK3BML	Multi	Phone	All	212	1820	7
VK3AWS	Multi	Phone	All	240	1804	8
VK2AOA	Multi	Phone	All	161	1206	9
VK6ARG	Multi	Phone	All	231	1074	10
VK4WSS	Multi	Phone	All	95	712	11
VK4JWH	Multi	Phone	All	236	696	12
VK2BTW	Multi	Phone	All	56	344	13
VK8DA	Multi	Phone	All	81	162	14
VK3FRC	Multi	Phone	VHF	319	7520	1*
VK3UHF	Multi	Phone	VHF	217	4310	2*
VK2EH	Multi	Phone	VHF	135	3910	3*
VK4WIE	Multi	Phone	VHF	177	3316	4*
VK5SR	Multi	Phone	VHF	105	2878	5
VK3JTM	Multi	Phone	VHF	68	1482	6
VK2BV	Multi	All	All	368	2000	1*
VK2ATZ	Multi	All	HF	1311	2618	1/*
VK4IZ	Multi	All	HF	1114	2220	2*
VK2AWX	Multi	Phone	HF	937	1834	1*
VK4BAA	Multi	Phone	HF	647	1290	2*
VK5BP	Multi	Phone	HF	369	738	3*
VK2AOJ	Multi	Phone	HF	239	478	4
VK4CHB	Multi	Phone	HF	296	592	5
VK6SH	Multi	Phone	HF	134	268	6
VK4WIT	Multi	Phone	HF	117	234	7
VK2LE	Multi	Phone	HF	104	208	8
VK7WCN	Multi	Phone	HF	120	60	9

Six Hour Portable Operation – Multiple Operator

Call Sign	Operators	Mode	Band	Contacts	Score	Award
VK3XPD	Multi	Phone	All	131	2590	1*
VK3SAA	Multi	Phone	All	143	2104	2*
VK4WIM	Multi	Phone	HF	9	16	1*

24 Hour Portable Operation – Single Operator

Call Sign	Operators	Mode	Band	Contacts	Score	Award
VK4OE	Single	Phone	All	114	2442	1*
VK4TRX	Single	Phone	All	181	828	2*
VK5KBJ	Single	Phone	All	307	798	3*
VK2YJS	Single	Phone	All	33	302	4
VK2FREK	Single	Phone	All	47	130	5#
VK3ECH	Single	Phone	VHF	77	1214	1*
VK3YLV	Single	Phone	VHF	42	754	2*
VK5MFW	Single	Phone	HF	341	682	1*
VK4ART	Single	Phone	HF	275	548	2*
VK5UKK	Single	Phone	HF	173	346	3*
VK4JM	Single	Phone	HF	139	278	4
VK5FAJP	Single	Phone	HF	120	240	5#
VK4EV	Single	Phone	HF	90	180	5
VK3MV	Single	CW	HF	22	44	1**

Six Hour Portable Operation – Single Operator

Call Sign	Operators	Mode	Band	Contacts	Score	Award
VK3DCQ	Single	Phone	VHF	95	1442	1*
VK1XYZ	Single	Phone	VHF	8	190	2*
VK5AGZ	Single	Phone	All	58	236	1*
VK4FHYH	Single	Phone	All	46	176	2.*
VK1AI	Single	All	HF	51	102	1*
VK1WJ	Single	All	HF	41	82	2*
VK3ZPF	Single	Phone	HF	82	164	1*
VK4VCH	Single	Phone	HF	82	162	2*
VK2FGAZ	Single	Phone	HF	69	138	3*
VK2FDMB	Single	Phone	HF	65	130	4#
VK4TGL	Single	Phone	HF	4	8	5

Home Station – 6 Hour

Call Sign	Operators	Mode	Band	Contacts	Score	Award
VK2ZEN	Home	All	All	122	178	1*
VK2KDP	Home	All	All	110	169	2*
VK7HAY	Home	All	All	95	136	3*
VK3KFE	Home	All	All	46	82	4
VK2DAG	Home	All	All	22	71	5
VK4DGU	Home	All	All	12	24	6
VK2FY	Home	All	All	15	24	7
VK2ZTM	Home	All	All	11	19	8
VK8AV	Home	All	All	9	18	9
VK3HV	Home	All	All	9	15	10
VK4FNQA	Home	All	All	4	7	11#

Home Station – 24 Hour

Call Sign	Operators	Mode	Band	Contacts	Score	Award
VK4VDX	Home	0	0	299	443	1*
VK2LCD	Home	0	0	238	353	2*
VK2AFY	Home	0	0	247	343	3*
VK4FABC	Home	0	0	166	263	4#
VK3BBB	Home	0	0	111	200	5
VK3YXC	Home	0	0	122	188	6
VK2ENG	Home	0	0	106	185	7
VK4KEL	Home	0	0	104	181	8
VK3FSTU	Home	0	0	113	180	9#
VK2HBG	Home	0	0	105	161	10
VK3FABV	Home	0	0	101	158	11#
VK3CNE	Home	0	0	101	157	12
VK2BOR	Home	0	0	85	104	13
VK2ASU	Home	0	0	82	138	14
VK2EAH	Home	0	0	73	130	15
VK4BBX	Home	0	0	64	110	16
VK5EMI	Home	0	0	61	101	17
VK2ZTY	Home	0	0	49	94	18
VK4HDX	Home	0	0	47	84	19
VK4AR	Home	0	0	41	82	20
VK4DMC	Home	0	0	46	80	21
VK3IO	Home	0	0	42	77	22
VK2UVP	Home	0	0	42	74	23
VK4ZW	Home	0	0	45	74	24
VK2FMEL	Home	0	0	38	65	25#
VK4ION	Home	0	0	32	57	26
VK3KTM	Home	0	0	28	47	27
VK5HLS	Home	0	0	19	38	28
VK6ZMS	Home	0	0	19	34	29
VK6VVV	Home	0	0	16	29	30
VK2BJT	Home	0	0	11	20	31
VK2JNA	Home	0	0	10	15	32
VK2ZZ	Home	0	0	8	14	33

Short Wave Listener – 24 Hour

Call Sign	Operators	Mode	Band	Contacts	Score	Award
Craig Edwards	Portable	0	0	45	90	1*

* Certificate Awarded
\# Participation Certificate
** President's Cup

Comments on John Moyle Memorial National Field Day 2008

This year's entries came from every Australian mainland call area and Tasmania. However this year there were no entries from across the Tasman from ZL. An effort will again be made in 2009 to suggest to the NZART to inspire some more active interest among ZL amateurs. Especially since VK4VCH, who was in New Zealand as a tourist, operated portable in ZL3. All of her contacts were from other than ZL stations. A few did take part and gave out contacts to other stations, but not that many and no logs were submitted.

I have included all of the results that I received in the totals and if any are missing, they are completely lost. I can only offer my apologies to anyone so affected. I am sorry if your log is missing, but it did not get to me despite my most careful procedures and cross checking.

Based upon submitted logs, there were some 17,258 contacts, amounting to some 99,248 points claimed. This was pretty heavy contesting, but unfortunately it resulted in only 104 logs being submitted. This is, however, considerably higher than in previous years.

Unfortunately, the numbers of stations who went to the considerable trouble of going out and setting up as a portable station and then not bothering to submit a log as an entry, is still a disappointment. Some multiple operator stations got very big scores this year; perhaps this simply reflects the great and varied planning and implementation efforts required to assemble and operate a multi operator station without operation on one band wiping out the efforts on another band?

Band	S/UHF		VHF		HF	
	Contacts	Points	Contacts	Points	Contacts	Points
24 GHz	**3** (0)	**30** (0)				
10 GHz	**22** (1)	**670** (30)				
5.7 GHz	**12** (1)	**372** (30)				
3.4 GHz	**21** (0)	**650** (0)				
2.4 GHz	**30** (4)	**660** (120)				
23cm	**224** (94)	**4576** (1670)				
70 cm	**1116** (777)	**17801** (12375)				
2m			**2222** (1545)	**38718** (24410)		
6m			**648** (436)	**11051** (6813)		
10m					**62**(25)	**122**(49)
15m					**372**(125)	**742**(248)
20m					**2206** (1646)	**4291** (3276
40m					**5790** (6041)	**10867** (11402)
80m					**4358** (1831)	**8360** (3596)
160m					**172** (9)	**340** (18)
Total	**1428** (877)	**24759** (14225)	**2870** (1981)	**49767** (31223)	**12960** (9677)	**24722** (18580)

Table should be read – 2008 results in bold, and 2007 results in brackets.

This year we had some stations operating on the higher microwave bands up to and including 24 GHz, and there were many more contacts on the other microwave bands than in previous years. This is a good outcome and hopefully an indicator for the future.

The other major change noticed this year was the slight increase in Portable Station operation but a very significantly increased number of Home Stations. This is not in line with the spirit of the contest, which is to foster portable station operation. Clearly there were many more portable station operators who did not submit a log. They are strongly encouraged to do so next year.

Activity was carried out on all bands permitted under the rules. There was very noticeably increased activity on HF, but the frequencies followed the declining sunspot cycle. This is

very close to the bottom and so conditions are likely to improve substantially next year. In the higher microwave bands there was considerably more activity than last year, but mainly in the southern states. Maybe it follows a weather cycle, rather than the solar cycle.

There were very high temperatures in VK3 and VK5 which probably limited the number of operators because of the possible Total Fire Ban. VHF and UHF activity increased considerably as well, with the higher scoring reflecting the increased numbers of contacts as well as the longer distance of many contacts.

The participation across the various call areas was patchy. The greatest changes were in the great increase in the number of Home Station logs submitted.

Call Area	Portable		Home		Total	
VK1	3	2	0	0	3	2
VK2	16	17	18	7	34	24
VK3	13	11	9	4	22	15
VK4	17	16	11	4	28	20
VK5	7	7	2	1	9	8
VK6	2	3	2	0	4	3
VK7	1	1	1	0	2	1
VK8	1	1	1	0	2	1
ZL	0	0	0	2	0	2
P2	0	0	0	0	0	0
	60	58	44	18	104	76
	2008	2007	2008	2007	2008	2007

The scoring on VHF may need further revision as the scores produced on VHF are higher than the scores on HF, where the effort required to get a high score out weighs the comparative effort on VHF. However this is not the nature of contesting whereas HF takes time and effort to work the number of stations required, while VHF and UHF require the vagaries of weak signals to achieve a contact?

Maybe next year we can get a few more portable stations out in the field in VK3? Last year the weather was cold and wet which discouraged portable operation and this year the weather over the contest weekend was very hot and for several days before there was the chance of a Total Fire Ban. This would be a sure way to discourage portable operation from any remote location. Perhaps the weather may be kinder next time.

Many of the portable stations that went to the effort to send in a log got a certificate. I believe that people who made the effort to set up a portable station and operate should be acknowledged. Do the rules need a revision to reward such effort? In line with last year the Foundation Licence logs were awarded a participation certificate for encouragement.

Only ten Foundation Licensed operators bothered to submit a log. (Four were from VK2, two from VK3, three from VK4 and one from VK5.) There were many more than this logged during the contest. Perhaps they can be better advised next year? All logs submitted by Foundation operators were awarded a certificate.

For the first time in a number of years a shortwave listener – from the Top End – made the effort of setting up a portable station and managed to log some 45 contacts. Well Done! Perhaps we will receive a Foundation Log from him next year?

There were many more electronic logs submitted this year. This has been due largely to the excellent work by Mike Subocz VK3AVV and his worthy program VKCL (VK Contest Log). Those that submitted a log in the VKCL export format were extremely easy to work with. Those that simply forwarded the text output of VKCL were also rather simpler to work with than any paper log completed by hand.

This year there were still a few individuals or clubs who submitted their log only handwritten on paper; while these can be integrated into the scoring they cannot be easily manipulated electronically and are much harder to use. All logs submitted in an electronic form this year were fully readable.

This year the rules stated that EXCEL is the preferred submission format. A sample linked EXCEL logging report was prepared and sent to those who requested this file. (Contact me at vk4aig@hotmail.com if you would like a copy of my linked spreadsheet in EXCEL for next year.) Other suitable file submission formats are WORD or the ADI output file from VKCL (VK Contest Log). Paper logs and scanned files of handwritten logs can also be used, but require considerable manual work on my part to input the data and are not encouraged.

There were a few who complained about the scoring process again this year. These complaints and comments fell into several main categories.

The comparative difference in score and scoring between HF and VHF/UHF contacts.

In fact within the John Moyle Contest, the rules allow for some 27 possible alternative categories as shown below. Each category is actually completely independent from every other category and so there are in fact 27 parallel contests. In this way it is completely different from any other contest presently in Australia.

Table of alternative categories

Operators		Modes			Bands		
	Time						
Multi	24	Phone	CW	All	HF	VHF	All
Multi	6	Phone	CW	All	HF	VHF	All
Single	24	Phone	CW	All	HF	VHF	All
Single	6	Phone	CW	All	HF	VHF	All

Home	24
Home	6

SWL	24

For this reason it is not possible to have an overall winner in this contest, as scores from any category, especially between different bands and different modes, are not comparable. Only scores within the same category are correctly comparable. Hopefully this will explain the most common source of concern.

The second most contentious area is the 'Non Phone' modes.

In this contest CW was the only 'non-phone' mode allowed for within the rules. All other forms such as RTTY, PSK31, JT65 etc were previously simply treated as CW. However, many comments were received as to whether these 'Digital

Modes' could be used. There are many concerns regarding these computer based modes. Mainly to do with the very large scores that could be amassed with a bit of planning and the use of automatic calling CQ.

What assurance can be given that the contacts were in fact using a human operator and not simply a fully automatic station?

Do these modes allow for the exchange of correctly formatted numbers as required by the rules? (Some modes use specially shortened calling cycles and their own detailed exchange methods.

Would a further 'Digital Mode' be required in the rules to cope with the range of options?

What distinct modes among the many available options are acceptable?

What log output format would be needed to present the contact exchange information in an acceptable form?

Would a separate 'Digital Only Contest' be the better solution by creating a more even playing field?

There were no comments raised last year when the results were published and so a trial was included in the rules this year for these modes, but no logs were submitted so the matter remains a moot point. I intend to leave them in the rules for 2009.

Next, we have a rather non contentious issue of scoring for CW (hand) contacts.

A few people made comments that they had wanted to make CW contacts and others were not prepared or not able to exchange numbers in CW. In addition there were very few logs actually submitted claiming CW contacts.

The comment was made that CW is probably dead or at least close to dying.

A further suggestion was made to allocate a higher point score to a CW contact.

While CW is no longer a precondition for obtaining an Amateur licence, it is a skill that is widely distributed among existing operators and a skill that should be nurtured among the newer licence holders.

As only one log was submitted in the CW only category it is clear that a change will be required in the rules to promote a little more interest in the mode. It is my view that to enhance the number of CW contacts a higher point scoring could be allocated for contacts completed in CW compared to a 'Phone' contact. This will be introduced in the 2009 contest.

The number of people who submitted logs claiming 'All Modes' and only logged contacts using SSB or FM.

The Modes allowed in the rules are PHONE (SSB or FM) and CW (Manual or Digital Mode).

The PHONE Modes are SSB, DSB, FM or AM. That is the modulation is an audio signal derived in the first instance from a microphone.

The alternative is CW, either hand or computer derived that simply turns the carrier on and off.

Only five logs were submitted with all mode and one with CW only.

The complexity of the VHF/UHF scoring system that differs from all of the other contests conducted in these bands in Australia.

It is agreed that the different scoring system between the John Moyle Memorial National Field Day Contest, compared with the Ross Hull and the Spring & Summer Field Day contests, makes for a marked degree of confusion. I have received quite a number of comments in this regard and I intend to discuss with the other contest managers the possibility of a comparable method of scoring on VHF and UHF.

(Editor's Comment: Denis, if they cannot read the Rules for a particular contest and work out the scoring system, they should not bother! The rules of the other main VK VHF/UHF Contests and the JMMNFD are different, but they are NOT hard to work out!)

The rules have evolved over time and reflect a changing climate as far as VHF/UHF operations. The relative ease of setting up an efficient station with modern equipment may overly reward the effort involved?

Perhaps it is time to reconsider the scoring principles involved and the method of calculating scores? I again look forward to and welcome any feedback on this topic.

Finally there was discussion about the massive scores accumulated by multi-operator club stations: being so much higher than could possibly be achieved by a single operator.

It is my view Multi-operator stations and Single operator stations already are separate categories and so are not competing against each other. Looking at the scoring above it is clear that a capable single operator can produce a very creditable score.

I do not think any difference in scoring rate between single and multi stations will achieve anything more than providing more confusion. I, however, look forward to any further comments.

There is the very low number of CW only logs and the award of the President's Cup.

As there was only one entrant who submitted a CW Only log they automatically collect the President's Cup. Not in any way to discourage CW operation, it is considered that this award may have reached the end of its useful life.

Perhaps, as suggested by this year's winner, there is a good argument that the President's Cup should be awarded to the club Station with the highest overall score, or the highest individual score? I welcome any submissions on this topic and we can put a case to the President for a change of rules in this matter.

Now it is over to you.

If you have a contribution to make on any of these topics, please feel free to contact me. My contact details are already on the WIA web site, as are the rules for this contest – http:\\www.wia.org.au If sufficient interest is raised they can be assembled into an article for subsequent publication in AR.

Well done to all of those stations that participated in the contest and well done those who bothered to submit a log. It is hoped that the number of logs to be submitted next year will continue the current trend of increased log numbers.

I wish to thank those who did send in photographs of their equipment set-up and personnel involved for inclusion in the AR magazine. These have been submitted to AR along with this report so please give Peter Freeman editor-armag@wia.org.au anything else you have for later use for the magazine.

Denis Johnstone (VK4AIG/VK3ZUX)
Contest Manager

Breakdown of Contacts by Call Area and Band

SHF/UHF/VHF BANDS

	24 G	24 G	10 G	10 G	5.7 G	5.7G	3.4 G	3.4 G	2.4 G	2.4 G	1.2 G	1.2 G	70 cm	70 cm	2 m	2 m	6 m	6 m
	P	C	P	C	P	C	P	C	P	C	P	C	P	C	P	C	P	C
VK1	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**21**	**160**	**6**	**0**	**0**
	0	0	0	0	0	0	0	0	0	0	0	0	1168	44	2048	66	154	9
VK2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**554**	**42**	**6081**	**332**	**15057**	**767**	**2894**	**156**
	0	0	30	1	30	1	0	0	0	0	230	15	3071	161	7941	373	1952	94
VK3	**30**	**3**	**440**	**16**	**192**	**8**	**340**	**14**	**430**	**25**	**3202**	**161**	**8345**	**471**	**15725**	**878**	**7136**	**368**
			0	0	0	0	0	0	90	30	1432	75	6091	371	9726	618	4077	249
VK4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**300**	**9**	**2175**	**192**	**6340**	**404**	**827**	**102**
	0	0	0	0	0	0	0	0	0	0	520	58	1189	108	2653	317	422	61
VK5	**0**	**0**	**230**	**6**	**180**	**4**	**310**	**7**	**230**	**5**	**520**	**12**	**826**	**73**	**904**	**81**	**192**	**22**
	0	0	0	0	0	0	0	0	0	0	0	0	856	93	2490	170	208	23
VK6	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**344**	**46**	**530**	**85**	**0**	**0**
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VK7	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VK8	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0
ZL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	**30**	**3**	**670**	**22**	**372**	**12**	**650**	**21**	**660**	**30**	**4576**	**224**	**17801**	**1116**	**38718**	**2222**	**11049**	**648**
2007	0	0	30	1	30	1	0	0	120	4	1670	94	12375	777	24410	1545	6813	436

HF BANDS

	10 m P	10 m C	15 m P	15 m C	20 m P	20 m C	40 m P	40 m C	80 m P	80 m C	160 m P	160 m C
VK1	**0**	**0**	**0**	**0**	**28**	**14**	**134**	**67**	**22**	**11**	**0**	**0**
	2	1	0	0	24	12	486	243	76	38	0	0
VK2	**12**	**7**	**73**	**37**	**1332**	**693**	**5059**	**2709**	**4097**	**2141**	**208**	**106**
	3	2	40	20	726	365	4231	2333	1277	600	0	0
VK3	**2**	**1**	**0**	**0**	**185**	**96**	**1194**	**664**	**829**	**443**	**20**	**10**
	0	0	4	2	167	85	644	346	317	163	6	3
VK4	**68**	**34**	**595**	**298**	**1923**	**983**	**3027**	**1600**	**2190**	**1143**	**94**	**47**
	40	20	192	97	1658	837	3959	2076	1278	644	12	6
VK5	**40**	**20**	**66**	**33**	**412**	**211**	**1173**	**590**	**956**	**480**	**18**	**9**
	2	1	10	5	366	184	1663	833	474	237	0	0
VK6	**0**	**0**	**4**	**2**	**287**	**147**	**92**	**46**	**148**	**74**	**0**	**0**
	0	0	0	0	126	63	298	149	94	47	0	0
VK7	**0**	**0**	**0**	**0**	**22**	**11**	**134**	**87**	**100**	**57**	**0**	**0**
	0	0	0	0	108	54	96	48	64	32	0	0
VK8	**0**	**0**	**4**	**2**	**102**	**51**	**54**	**27**	**18**	**9**	**0**	**0**
	2	1	2	1	50	25	4	2	0	0	0	0
ZL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	0	0	0	0	42	21	21	11	16	10	0	0
2008	**122**	**62**	**742**	**372**	**4291**	**2206**	**10867**	**5790**	**8360**	**4358**	**340**	**172**
2007	49	25	248	125	3267	1646	11402	6041	3596	1831	18	9

Numbers in Bold are for 2008 and other details are from 2007

Inaugural Winter VHF-UHF Field Day 2008

John Martin VK3KM, contest manager

The first VHF-UHF Field Day was run as a trial in January 1989. The response was good, so the Field Day became a permanent event. Then in 1998 Rod VK2TWR suggested that it would be a good idea to have a Spring Field Day as well. This also went well, and activity has continued to increase since then, especially over the last few years.

Now Michael VK3AAK has suggested the idea of a Winter Field Day. This is certainly worth a try, and if it goes well it could become another regular feature of the contest calendar.

This Field Day is being arranged at short notice, so please spread the word. Polling has indicated majority support for a date in early winter, and the date has also been chosen to avoid clashes with major events such as GippsTech.

The rules are quite straightforward. The wording of the details relating to the contest sections has been rearranged for the sake of clarity, but the rules themselves are the same as for previous events. A sample scoring sheet is included with the rules on the WIA web site.

I hope you will able to participate in the Field Day, and I look forward to receiving plenty of logs.

Dates

Saturday and Sunday June 21 and 22, 2008.

Duration in all call areas other than VK6:	0200 UTC Saturday to 0200 UTC Sunday.
Duration in VK6 only:	0400 UTC Saturday to 0400 UTC Sunday.

Please note these times carefully, because this is the first VHF-UHF Field Day to be run at a time of the year when daylight saving time does not apply.

Sections

A: Portable station, single operator, 24 hours.

B: Portable station, single operator, 8 hours.

C: Portable station, multiple operator, 24 hours.

D: Portable station, multiple operator, 8 hours.

E: Home station, 24 hours.

Entrants may enter more than one section.

Single operator stations: If a single operator station operates for more than 8 hours, the station may enter both Section A and Section B. If the winner of Section A has also entered Section B, his log will be excluded from Section B.

Two operators: If two operators set up a joint station with shared equipment, they may choose to enter Section A or B as separate stations under their own callsigns, or Section C or D under a single callsign. If they enter Section A or B, they may not claim contacts with each other.

Multi-operator stations: Stations with more than two operators must enter Section C or D. If the winners of Section C have also entered Section D, their log will be excluded from Section D. Operators of stations in Section C or D may not make contest exchanges using callsigns other than the club or group callsign.

Operating periods: Stations entering the 8 hour sections may operate for more than 8 hours – please include details in your cover sheet of which 8 hour period should be used for scoring purposes.

General Rules

One callsign per station. Operation may be from any location. Stations may change location during the Field Day provided the station is dismantled and reassembled each time it moves. A station is portable only if all of its equipment is transported to a place which is not the normal location of any amateur station. You may work stations within your own locator square. Repeater, satellite and cross band contacts are not permitted.

No contest operation is allowed below 50.150 MHz. Recognised DX calling frequencies must not be used for any contest activity. Suggested procedure is to call on .150 on each band, and QSY up to make the contest exchange.

Contest Exchange

RS (or RST) reports, a serial number, and your four digit Maidenhead locator.

Repeat Contacts

Stations may be worked again on each band after three hours. If the station is moved to a new location in a different locator square, repeat contacts may be made immediately. If the station moves back into the previous locator square, the three hour limit still applies to stations worked from that square.

Scoring

For each band, score 10 points for each locator square in which your station operates, plus 10 points for each locator square worked, plus 1 point per contact. Multiply the total by the band multiplier as follows:

6 m	2 m	70 cm	23 cm	Higher
x 1	x 3	x 5	x 8	x 10

Then total the scores for all bands.

Band	Locators Activated (10 points each)	+	Locators Worked (10 points each)	+	QSOs (1 point each)	x	Multiplier	=	Band Total
6 m	10	+	40	+	40	x	1	=	90
2 m	10	+	40	+	30	x	3	=	240
70 cm	10	+	40	+	20	x	5	=	350
etc.									
Overall Total								=	**680**

Table 1

continued on page 51

DX: news & views

John Bazley VK4OQ
P.O. Box 7665, Toowoomba Mail Centre, QLD 4352
Email:john.bazley@bigpond.com

Most DXers reading this are aware of Bill NG3K's Web page, with information of announced DXpeditions, but just in case you are not, here are the details:

Bill NG3K (bill@ng3k.com) recently made a functional improvement to his ADXO (Announced DX Operations) listing (http://www.ng3k.com/Misc/adxo.html). Active DX operations now include a link to the DX Watch spot database. The link is located beneath the call sign in the Call field for most active DX operations listed in ADXO. A user clicking on [spots] will view a real-time list of recent DX Cluster spots for the call in question. DX Watch (www.dxwatch.com) is an innovative second generation DX spotting application that integrates data from packet cluster, qrz.com, and 425 DX News.

The five-man UK YK9G DXpedition team ran two stations around the clock for one week making around 29,500 QSOs. The YK9G Website is at http://www.yk9g.com/, including a log search and photos. QSL via G3TXF. Lots of activity from YK recently and the occasional trips there continue by YK1BA.

Island hopping

Dennis Motschenbacher K7BV has announced his plans for a June/July 2008 6-metre DXpedition to two islands in the Caribbean.

He may also be QRV on HF when the "Magic Band" is not open. His first stop will be back to Belize (V3), where he will be QRV from Caye Caulker Island (NA-073) from June 20th to 26th. This is grid EK57xr.

Next stop: even better! Plans are to be on San Andres Island (NA-033) from June 28th to July 6th. This is from grid EK92dm. Dennis says "The budget for this two-island trip is a bit staggering and beyond my pocket book, but I am going to "go for it", believing sufficient financial support will come." Mick McManus W1JJ will be the "DXpedition Treasurer" and QSL manager. Complete details can be found on Dennis' web site at www.qth.com/k7bv/caribe2008

PMM3M will be on the Isle of Arran, EU-123, July 24-28. Ops signed up for this trip are G3VCQ, G3PHO, M0GAV, 2E0TJX, M3VCQ, M1ERS, M0TWS and 2E0JTL. They will be in the IOTA contest and also plan to go to the Isle of Pladda, July 25-26. QSL via G3VCQ direct or bureau.

FP/KV1J and **FP/W1MAT** will be active from St. Pierre and Miquelon July 9-14. Eric and Matthew, father and son, will be on 80-6 m SSB, CW and RTTY with 100 watts to verticals and a TW2010. They will be on for the IARU contest. QSL to their home calls.

With immediate effect, **Tim Beaumont M3SDE** is the new QSL manager for the following stations/operations, previously managed by the late Graham Ridgeway (M5AAV): 9M4SEB (OC-295), 9M6XRO, HS0ZHX, 9M6/G3OOK, 9M6XRO/P (OC-133), V8FEO, 9M6DXX, 9M8Z, XU7DXX, 9M6DXX/P (OC-133), A25OOK, XU7XRO. QSL to Tim Beaumont, P.O. Box 17, Kenilworth, Warwickshire, CV8 1SF, England. (It will take some time before the blank cards can be forwarded on to M3SDE, please be patient).

Six operators will activate **OJ0, Market Reef**, for the IARU HF World Championship July 12-13 with three stations, 160-6 m. The operators will be SM0CKV, OH1VR, OH3RM, W6RGG, AE9YL and K9LA. They will sign OJ0/home call before and after the IARU event, except for OH1VR who has his own OJ0 callsign, OJ0VR. Send for the OJ0/ cards to the individual ops' home calls and OJ0VR via OH1VR. The special call for the contest is not yet known. We will let you know. This operation will be July 11-14 and be multi-single.

A group of serious yachtsmen and rock climbers plan an expedition to **Rockall Island, EU-189**, a desolate place approximately 490 km off the Scottish Coast. They have room on board for up to eight hams. You can express your interest in going by contacting Andy Strangeway, www.island-man.co.uk, by e-mail at info@island-man.co.uk For more info on this interesting opportunity, check out http://hamspirit.wordpress.com/

ZD9: Tom KC0W (ZD7X) now says he will depart St. Helena in late June. His next DX location will be Tristan da Cunha (AF-029), he plans to be very active as ZD9X for 4-6 months, or more.

KH9: WAKE ISLAND, OC-053 Colin WA2YUN/KH9, will have a three element tribander in a few weeks time. About two months later he will get a power amplifier as well. Colin will stay on Wake Island (OC-053) until the end of 2009. His QSL manager is K2PF.

QSL via G3SWH

Phil G3SWH is the QSL manager of the following stations:

3C5XA, C6AWF, M5BXB, 4S7WHG/p, D68C, MW1BCG/p, 5B4AIZ, EA8/G3XAQ, OH6/G4VXE, 5H1/G3SWH, F/G3RTE/p, OK8XB, 5H3/G3SWH, F/G3SWH/p, PJ2Y, 5R8FL, FO/G35WH, SV8/G3SWH, 5R8FT, FO/G35WH/p, SV9/G4VXE, 5R8FV, G3SWH/mm, UA9CDC, 5R8GO, G3XAQ/6Y5, UI1A, 5R8GZ, G4VXE, UI8A/G3SWH, 5R8HA, G4VXE/C6A, UI8AA, 5R8HA/p, G4VXE/TF, UI8B, 5R8O, G4VXE/VE3, UI9AWD, 5T0CW, G4WFQ/6W, UI9BWR, 5Z4LI, G4WFQ/HI9, UK8AA, 5Z4WI, G6YB, UK8AWD, 8P9XA, G6YB/p, UK8BWR, 8Q7WH, GD6YB/p, UK8R, 8Q7ZZ, GJ3RTE/p, UU8AA, 8R1PW, GJ3SWH/p, V8JIM, 9G5XA, GJ4VXE/p, VK9NJ, 9I40CA, GJ6YB, VP2V/G6AY, 9J2CA, GQ6YB, VP2MTE, 9M0C, GT6YB, XU7ABC, 9M6LSC, GU4VXE/p, XU7ACT, 9M6PWT, GU6YB/p, XU7ACU, BX3AC, GW4VXE/p, ZF1VX, BY1QH/G3SWH, GW6YB/p, ZF2NT, C4Z, GX6YB, ZS1/G3SWH, C56C, J6/G3XAQ, ZS1RBN, C56VZ, L4D

Phil sends his QSL cards via bureau, direct or after requested online at his website: http://www.g3swh.org.uk

DXCC Credits

The ARRL DXCC Desk has approved the following operations for DXCC credit:

9UXEV: Burundi: 2008 Operation

5X1NH: Uganda: 2007 Operation

YK9G: Syria: 2008 Operation

S05A: Western Sahara: 2007 Operation

HZ1PS: Saudi Arabia (note: no dates

were given – probably any and all)

Christmas Island Press Release #1. It is a great pleasure to officially announce the VK9X Christmas Island 2008 amateur radio DXpedition.

Dates: From July 8th until July 20th

The Crew: Marq VK9XWW (CT1BWW), John VK9XHZ (EA3GHZ), Henry VK9XOR (EA5EOR), Dina VK9XME (EC5BME)

Stations: 3 stations (1 high-power, 2 barefoot)

Bands and Modes: 160 to 6 metres CW, SSB, RTTY, PSK31 and SSTV

Pilot Stations: Africa: ZS1AU, Asia: JA8BMK, Europe: EA4TD, Oceania: ZL2AL and VK2CZ and North America: K4SV.

QSL Card: via EA4URE direct or by Bureau.

The official Web site is: http://www.dxciting.com/vk9x/

An email from Tomi HA7RY, who activated Willis Island last year, says that he is up-to-date with all direct requests. If you have not received yours, then you can email him for confirmation that your request was received by him. Some of the mail has not arrived (mine included!). The email address is available on qrz.com

Happy DXing.

Special thanks to the authors of *The Daily DX* (W3UR), *425 DX News* (I1JQJ) and *QRZ.DX* for information appearing in this months *DX News & Views*.

For interested readers you can obtain from W3UR a free two week trial of The Daily DX from www.dailydx.com/order.htm

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Inaugural Winter VHF-UHF Field Day 2008

continued from page 49

Logs

Logs should cover the entire operating period and include the following for each contact: UTC time, frequency, station worked, serial numbers and locator numbers exchanged, points claimed.

Cover Sheet

The cover sheet should contain the names and callsigns of all operators; postal address; station location and Maidenhead locator; the section(s) entered; the scoring table; and a signed declaration that the contest manager's decision will be accepted as final.

Please use the format in Table 1 for your scoring table. In this example the operator has operated from one locator and worked four locators on each band:

A sample cover sheet and scoring table is available on the WIA web site. Copies can also be obtained from the e-mail address given below.

Entries

Paper logs may be posted to the Manager, VHF-UHF Field Day, 3 Vernal Avenue, Mitcham, Vic 3132. Electronic logs can be e-mailed to vhf-contests@wia.org.au. The following log formats are acceptable: ASCII text, MS Office 2000 (or earlier) RTF, DOC, XLS or MDB. Logs must be received by Monday, July 14, 2008. Early logs would be appreciated.

Contest rules and sample cover sheets are available on the WIA website.

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Silent keys

Denise Robertson VK5YL

At the end of January this year Denise became a SK.

She had been in a nursing home for the last couple of years but till then she had been able to stay at home. As long as Denise was at home she always enjoyed her dogs and their activities.

Denise received her amateur licence while she was living in Canberra in the early 50s and became VK1YL. After two stints in America, Denise and David came home to Adelaide when David's mother died and left the family home to them. When she applied for a VK5 licence she was given VK5YL.

submitted by Meg Box VK5YG

William Malcolm (Chum) Ferris VK2CWF 1914 – 2007

It is with sadness we announce the passing of Chum Ferris on 3rd December 2007 at age 93. Chum was the founder and chairman of Ferris Car Radio. He was exposed to the radio "Bug" in his early teens at Noyes Bros, Philips and AWA with an urge to establish a radio business of his own. Aged all of 18 years with a boy assistant and a bank balance of five pounds, Ferris opened in October 1932, in a small shop in Military Rd Mosman,

In 1935, Chum's brother, Mr G I (George) Ferris, joined the firm. In 1936 with a staff of five, the company started manufacturing car radios, making and selling one set to buy parts for the next one. Radio development was stalled by WWII and Ferris diversified, developing gas producer systems for cars, electrical service department, manufacture of toy trains and a stud piggery at Blacktown, to supply pork to the troops.

Chum played a large role in the design and engineering of all the numerous products manufactured entirely in-house. Ferris had strategic coverage nation wide (including three factories at Brookvale) with an all-up staff around 700.

I always found Chum to be a fair businessman and always a gentleman. As a manufacturer of HF marine transceivers, Chum had an interest in radio communications acquiring his first amateur radio licence VK2XWF in 1983, then upgrades to VK2KWF and VK2CWF.

He made many contacts and friends both from home and maritime locations. Being a member of the WIA and Westlakes ARC, he enjoyed his radios right up to six weeks before his passing.

A sector of Australian radio history has now passed on, but Chum will never be forgotten because there will always be a product somewhere with the name "Ferris" on it.

Chum is survived by his wife of 68 years, Joan and two sons John and Bill, grandchildren and great grandchildren.

References:

1. Electronic Australia "When I think back" AUG/SEP 1996
2. Historical Radio Society of Australia, April 2000, no 72

Submitted by: John Emanuel VK2EJP
HRSA member 1183

VHF/UHF – an expanding world

David Smith VK3HZ – vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

About the only enhanced conditions reported during the month occurred in early May.

On the afternoon of the 9th, the VK6REP 2 m beacon at Esperance was heard in Adelaide. No contacts were reported. On the morning of the 10th, a high-pressure cell had drifted across the south bringing with it some reasonable conditions. Many 2 m contacts were reported between VK3, VK5 (Adelaide) and northern VK7 stations. On the morning of the 11th, Phil VK5AKK in Adelaide worked Karl VK7HDX in Launceston on 70 cm, but conditions were not good enough for 23 cm.

Mid-Winter VHF/UHF Field Day

As has been advertised elsewhere in this issue, due to popular demand, a third VHF/UHF Field Day has been created to fill in the lull between the JMFD and the Spring event.

To align with a minor peak in Es propagation that normally occurs in late June, the Field Day will be held on the weekend of 21-22 June. This date may also be early enough to beat the coldest part of winter.

A number of stations have indicated their intention to be out on a hilltop somewhere, although winter track closures and the presence of snow may hamper some efforts and many may only be out for an 8-hour stint. If you are not intending to be out in the field, please provide as much support as you can from the comfort of your shack by providing contacts and contest points to those who have braved the conditions.

70 cm Band Under Threat

It is sad to see that, once again, one of our bands is under threat. As reported last month in the WIA notes, the ACMA has commenced a review of operations within the 403 – 520 MHz band seeking input on future options. The discussion paper to be found on the ACMA site states that the frequency range of 430 - 440 MHz is out of scope for the discussion. However, it specifically states that the use of the section of our band from 440 – 450 MHz is up for review. In many of the populated areas, we recently lost large slabs of the 420 – 430 MHz allocation. Now it looks as though 440 – 450 MHz is up for similar treatment. I would urge all of you to contact the WIA to insist that we voice our objection to this to the ACMA in the strongest possible terms.

GippsTech 2008

GippsTech - the premier conference in Australia for VHF/UHF and Microwave enthusiasts - is on again over the weekend of 5-6 July.

Not only will you hear presentations from other fellow amateurs on subjects of interest, but you also get to meet the voices behind the microphones. This is one event that should not be missed if you are interested in the VHF and upwards bands. Try to come for the informal Friday evening meal as it provides a good opportunity for some informal discussions.

EME

Trevor VK4AFL has been a keen EME enthusiast for many years. Early operations were on 70 cm where he developed a large array that was rotatable about its axis to cope with changes in signal polarisation. Then he erected a satellite TV dish and commenced operations on 23 cm.

Now, with a change in feed, he has the dish operational on 13 cm and is finding it the best of the bands he has used so far. He participated in the recent DUBUS EME contest and reports:

I found 13 cm to be definitely a good band and certainly suits a smaller dish such as my 3.7 m dish. It was helped a lot by WD5AGO`s excellent preamp. With about 90 W, CW echoes are quite loud and SSB returns Q5.

Earlier in the year I had a handful of contacts limited to 2301 and 2304 receive, but I purchased a 2320 receive converter from Kuhne Electronic, which I switch in and out as required.

A few days prior to the contest I had a check contact with G3LTF to confirm that 2320 was working. In the contest I worked W5LUA, WA6PY, WW2R, VE6TA, VK3NX, ES5PC, OKICA, G3LTF, DL4MEA, F2TU, SD3F and OZ4MM. For the next contest I expect to have 2424 receive going for the JAs. Carl, SD3F was my EME contact number 1000.

One problem is the continual tuning required to cover the various European frequencies within the 13 cm band, which I found very inefficient and frustrating. I am thinking that a better system might be to announce prior that I will listen 2304 only for a certain time frame and then listen only 2320 for another. I still have the 13 cm setup in place and will change to the 23 cm feed just prior to the 1296 contest in May.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

Digital DX Modes

Rex Moncur – VK7MO

During April, David VK3HZ and Rex VK7MO set a new Digital Record for 10 GHz of 224.7 km using JT65 between Mt Cowley near Lorne, Victoria and Mt Baw Baw in Gippsland, Victoria (see Photos).

David was running 0.8 watts to a 43 cm dish and Rex 10 watts to a 65 cm dish. Both stations were GPS locked to meet the stability requirements of JT65. The path is line of sight except for heavy tree cover at the Mt Cowley end. Signals were very strong at up to S8 on SSB, so the weak signal capabilities of JT65 were not really tested.

In order to explore the application of JT65 at 10 GHz tests were conducted over a number of paths from David's QTH in Melbourne to Strathmore (17 km), the Pentland Hills (69 km), Mt Buninyong (104 km), Mt Alexander (115 km) and to the QTH of Des VK3CY (202 km). From Strathmore it was necessary for Rex to beam through two

large trees just a few metres away, such that signals were scattered and weak and the antenna could be beamed in any direction with little change in signal strength. While at Mt Buninyong there appeared to be a clear path through the trees about 10 metres away, signals were again scattered widely and signals were available from many directions.

At Mt Cowley, the trees were around 100 metres away and while they fully blocked the path the longer distance to the trees limited scattering at wide angles and it was possible to discern a reasonably sharp pattern of the antenna. While experienced 10 GHz operators will be well aware of the problems of scattering from trees, this was all a new experience and something to be aware of in planning 10 GHz operations.

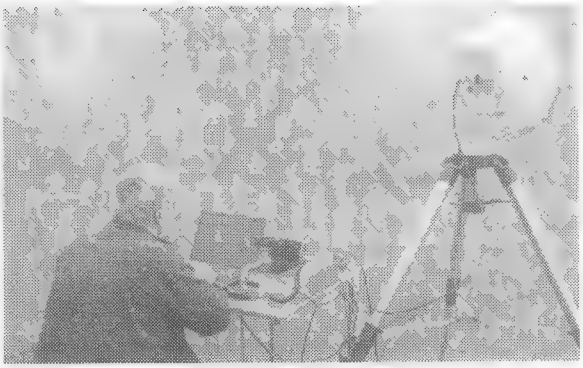
Despite the problems of scattering, JT65 performed extremely well and with GPS locking, WSJT always reported a DF of zero Hz indicating that both stations were within one 2.9 Hz bin.

The 202 km tropo-scatter path to the QTH of Des VK3CY proved much more demanding and on the first attempt with JT65C, no decodes were achieved and there was only slight evidence of signals at David's end where he could make use of the higher power being transmitted.

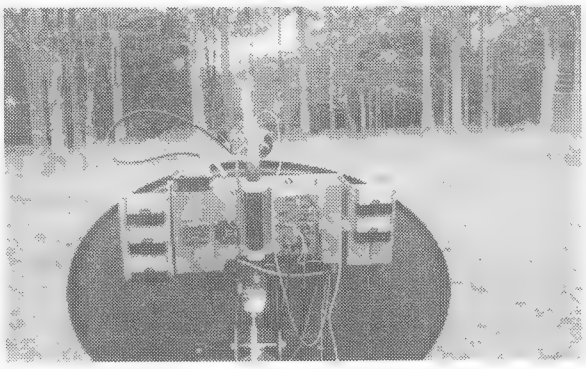
Following a visit to Alan VK3XPD, Rex was able to replace his feedline with hardline and improve transmit performance by 1 dB. In addition, with stability sufficient to allow the use of JT65a, it was decided to move to this mode to gain another 2.2 dB.

With this 3 dB improvement, a second attempt was made and this time David was able to decode signals. With the presence of signals it was possible to carefully optimise beam headings until David was receiving consistent signals of around -22 dB from Rex's 10 watts.

At this time Rex started to see traces of David's 0.8 watts and, after an hour and a half, a QSO was completed with Rex obtaining only four very weak decodes that peaked at -29 dB. It was found that it was in fact easier to get the RRR message through in conjunction with callsigns rather than to use the shorthand message approach.



Fogged in at Mt Baw Baw



All Clear at Mt Cowley

A lesson from our experience is that on very weak troposcatter paths at 10 GHz with antenna beamwidths of a few degrees, it is necessary to have a means of very accurately pointing the antenna so that when the troposcatter signals rise out of the noise you are in the right direction – it is just too difficult to peak the antenna on a fading signal you cannot hear.

While it was pleasing to complete a tropo-scatter contact, signal levels were 8 dB below that calculated for troposcatter and 20 dB below that calculated with the Radio Mobile computer program. Further tests are planned on paths from VK3 to VK7 to explore these anomalies.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

The Magic Band – 6 m DX

Brian Cleland – VK5BC

After a few "E" and JA openings in early April as reported last month the band went to 'sleep' mode with little to report in the rest of April and early May.

On 11th April Brian VK5BC reports working VK2s FA, BZE, JDS & ZT.

Best openings were on 13th April with many reported contacts. Kerry ZL2TPY worked John VK4FNQ, David VK4ZDP and Russel VK4BEG. Brian VK5BC had good conditions to Northern Queensland, contacting VK4s ZDP, ABW, FNQ, BEG, RF and APE.

David VK5AYD at Coober Pedy also worked John VK4FNQ, Andrew VK4KAY and Wayne VK2XN. Andrew VK4KAY completed a good contact with Wally VK6WG at Albany. Andrew also worked VK2XN. John VK4FNQ at Charters Towers worked many VK2s and VK5s and John VK4TL in the Atherton Tablelands worked John VK2FAD. The Alice Springs beacon was heard by both Kevin VK4BKP in Mackay and Jeff VK5GF (ex 8GF) at Victor Harbor and Phil VK2FHN reported the FK8SIX beacon.

Some brief openings on the 21st April with Joe VK7JG working Frank VK4FLR and Brian VK5BC working Neville VK2YO and Alan VK4SN. Then on 25th April Jeff VK5GF worked John VK4FNQ. Meantime Joe VK7JG has been continuing to have success with EME contacts and reports:

Conditions this month were good for 6 m EME on the days that I operated. Though rather early on a couple of mornings – 0230 one day then 0330 the next – it was well worth it. On May 1st, I completed contacts with Mick W1JJ and Lance W7GJ with the moon between 2 and 5 deg. Next morning I had a sked with Gary VK4ABW, his new array makes it easy. Lance called just to have another contact for the day. May 3rd I had a sked with GD0TEP and we completed with a very high moon at 16 deg. Not having elevation control limits my operating time with his best signal being –21. Then I worked Matteo IW5DHN.

Hopefully June brings some good winter "E" openings.

Please send any 6 m information to Brian VK5BC at bcleland@picknowl.com.au.

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Hamads *classifieds* FREE

FOR SALE NSW

• I have an **HP 141T spectrum analyser** for sale. It comes with an 8555A module which goes to 18 GHz. All reasonable offers considered. I am in Sydney on the North Shore at Cremorne. Phone 02 9904 9845. Mornings and evenings is the best time to reach me.

• ***Shack Clearout:*** **Kenwood TS-120S**, VFO-120, PS-30, AT-120, $500. **Kenwood TS-700** $120. **Kenwood TR-2400** H/H with chargers, Base etc., $100. **Philips PRM8030s**, 1 each of VHF & UHF, $100 ea. **MFJ 1278B** Multimode TNC, $100. **ICOM IC-R100** Scanner, $500. 2 x MDS Downconverters, $40 ea. **N & SO239** switches, Filters, SWR bridges, Mag. bases and mobile whips. Contact: Roger VK2DNX, vk2dnx@hotmail.com ,02 9547 2546.

• **Yaesu FT-230R** with YM-47 scanning mic., instruction manual, circuit diagram. S/N.2DO30860. $160. Maurie, email: mauriehay@bigpond.com. or VK2OW. QTHR

WANTED NSW

• **Racal HF** receiver model RA1217 or RA1218, prefer working condition. Contact Jack VK2AAS QTHR, phone 02 4454 1037 Mollymook

MISCELLANEOUS NSW

• See you at the Port Macquarie Field day June 7th & 8th. The Ozi-Pole portable dipole and other projects will be on display from the Mid North Coast Amateur Radio Group Inc. Visit http://www.mncarg.org/ for further information, or email mncarg@yahoo.com.au

FOR SALE VIC

• **Yaesu FT-7** txcvr. Genuine 20 W output, 80/40/20/15/10 m. Excellent condition, any trial $200. **Philips PRM-80** VHF FM txcvr. All repeater channels plus simplex, total 61 ch. $50. Solid state Sig. Gen. **B+K** Precision model E2000, range 10 kHz – 200 MHz. $50. John VK3BAF, phone 03 8502 8627 or email vk3baf@optusnet.com.au

• **Codan Model 8525** 100 watt Mobile Radio. Serial NoA4494 Good condition.. Five VKS737 frequencies, 80, 40 30 and 20 metre frequencies, power lead, Outbacker antenna with VKS and Flying Doctor frequencies with base and spring. $420 plus postage from Wonthaggi Vic. Lindsay Allen VK3IQ QTHR, Phone 03 5672 2563

• **Werner Wulf** 3el 20mtr Beam good condtn dismantled $150, also W/W 10/15mtr 5el Beam one element broken dismantled $100, Kenpro Rotator Model KR600RC and controlbox $150, Geoff VK3ED 03 9746 1438

WANTED VIC

• **Ant rotator.** Must be GWO, mast clamp top and bottom for 50 m pipe. David VK3ADL 03 5952 5940 QTHR

• Wanted for a project, a **Codan 6801 Mark 2** and 7113 power supply, both in top condition, complete and fully working. Damien VK3RX phone 03 5427 3121 or email vk3rx@wia.org.au

• I am looking for a **General Radio GR 1931A** Modulation Monitor. John Eggington, VK3EGG. mob 0409 234 672, email vk3egg@optusnet.com.au

MISCELLANEOUS VIC

• **Free magazines.** Amateur Radio: 1946 to 1979 (incl), QST: 1960 to 1978 (incl), Amateur Radio Action: 1980 to 1989 (incl). Magazines are at Bacchus Marsh, but I could bring them to Footscray (or even Bairnsdale). Don Watson VK3DPI, 03 9689 3995.

FOR SALE QLD

• **Yaesu HF transceiver** MARK-V FT-1000MP 200 W version, external PS s/n AG620042 plus Yaesu FL-1000 linear amp ext PS s/n 4H64005, also two filters for transceiver, lot incl. Yaesu desk and h/held mike, Morse key. VK4YV QTHR 07 5472 3097 $5000. Details: email vk4yv@yahoo.com

• **4-element Triband HF Yagi antenna**. Chimside Yagi antenna model CR-34DX high performance 4 element Triband beam 10 m – 15 m – 20 m amateur bands. Longest element is 9 m. Comes disassembled with short mast and plenty of cable. Good condition - works great. Sell for $400. Stored in Morningside, QLD. Jonathan Dimond (ex-VK4DJD), email: jonathan@jonathandimond.com, phone: 03 9016 3506

WANTED QLD

• Tower for all-band antenna. Need to be close to Rockhampton and easily re/assembled. Contact vk4yoh@wia.org.au

FOR SALE SA

• Yes, the very popular **VK5JST Antenna Analyser kits** are still available (see AR article May 2006). For more details see www.scarc.org.au; or contact SCARC PO Box 333 Morphett Vale SA 5162, email kits@scarc.org.au

• **HMV** Kimberley 4 band Transistor Portable radio Multi Band Multi Band 82541196 Mobile 0430 270 466 Brenton

WANTED SA

• S/H with damaged final RF/OP transistors **Yaesu FT-817** transceiver-transmitter, must work on all bands up to finals. Receiver must work on all bands. Have another use for radio. Steve VK5AIM QTHR. Phone 08 8255 7397

MISCELLANEOUS SA

• Help wanted in the Adelaide Metro area from an experienced operator to erect a full size **G5RV antenna.** It is necessary to be able to mix cement to make a base for one of the masts. I have most of what is required but I would be extremely grateful if an operator would phone me on any evening after 2000 hours and arrange to come and inspect the situation in order that I can show what is needed and explain details. Phone 08 8294 6906 VK5ZLC QTHR

About hamads....

- Submit by **email (preferred)** or on the **form on the reverse of your current Amateur Radio address flysheet.** Please print carefully and clearly, use upper AND lower case.
- Separate forms for For Sale and Wanted items. Please include name, address STD telephone number and WIA membership number.
- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from those who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising on these pages Contact Newsletters Unlimited.
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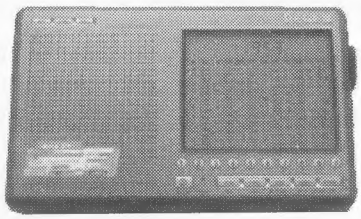

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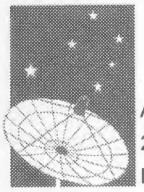

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Broadcast details

VK1	VK1WIA:	Sunday 1100 local, on 7.128, 146.950 and 438.050 MHz. Email newsletter, on request, via president@vk1.ampr.org
VK2	VK2WI:	Sunday 1000 and 1930 local, on 1.845, 3.595, 7.146, 10.125, 14.170, 28.320, 52.525, 145.6000, 147,000, 438.525 and 1273.500 MHz. Also 5.425 MHz USB in the morning.. Plus provincial relays both sessions and country relays in the morning via local repeaters. VK1WIA news is included in the morning.
VK3	VK1WIA:	Sunday 10:30 am and 8 pm Local Time. Amateur Radio Victoria VK3BWI B/cast Network: 3.615, 7.158, 10.130,147.250 VK3RMM Mt Macedon, 146.700 VK3RML Mt Dandenong, 147.225 VK3RWG Mt Baw Baw, 438.075 VK3RMU Mt St Leonard.
VK4	VK1WIA:	Sunday 0900 local via HF and major VHF/UHF repeaters.
VK5	VK5WI:	Sunday 0900 local, on 1.843, 3.550, 7.140, 28.470, 53.100 AM, 146.900 (SE), 146.925 (CN), 147.000 and 439.975
VK6	VK6WIA:	Sunday 0900 local, on 1.865, 3.582, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120, 50.150, 146.700 and 438.525 MHz. Country relays on 3.582 MHz and major repeaters. Repeated Sunday, 1900 local, on 1.865, 3.565, 146.700 and 438.525 MHz. Country relays on major repeaters. Also in 'Realaudio' format from the VK6WIA website.
VK7	VK7WIA:	Sunday 0900 local, on 1.840 AM and 3.570 MHz and on major repeaters. VK7 regional news follows at 0930 local, on 7.090 and 14.130 MHZ, and on major repeaters.
VK8		Sunday 0900 local, on 3.555, 7.050, 10.130 and 146.900 MHz.

Note that many clubs broadcast the WIA News via local VHF and UHF repeaters. Check the News section of the WIA website.

More John Moyle experiences

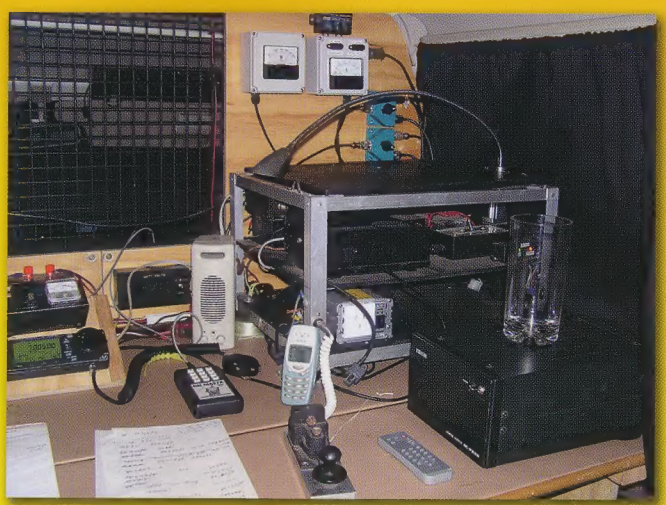
Photos from the John Moyle Memorial National Field Day 2008

Photos by Tim Morgan VK3JTM, Peter Young VK3MV and Doug Friend VK4OE

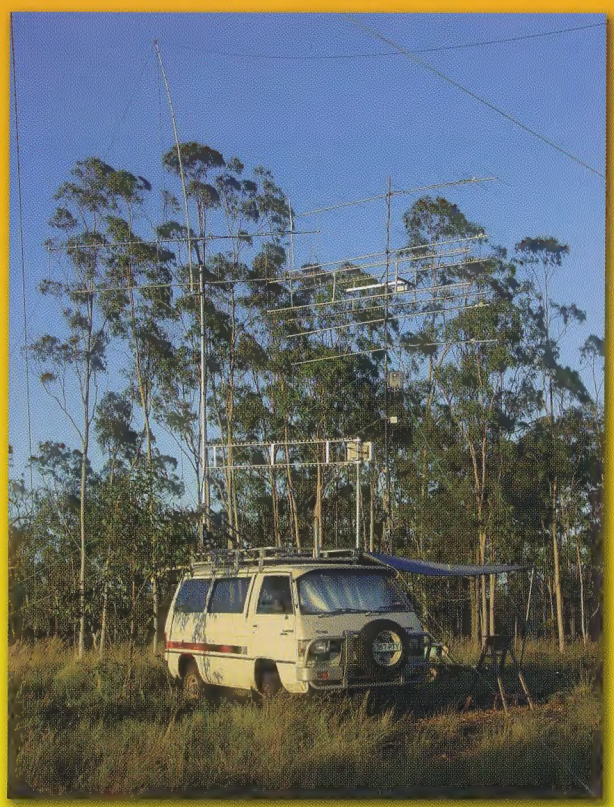
The view to the east from VK3JTM – green energy on the horizon

The caravan and antennas used by Tim Morgan VK3JTM

The view inside the back of the Peter Young VK3MV 4WD



A close up of part of the VK3MV portable shack.



The Doug Friend VK4OE portable shack, with its impressive array of antennas

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